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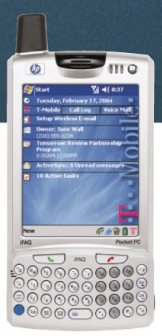

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Samsung SC-D6040 DuoCam

The SC-D6040 DuoCam packs many easy-to-use features for camera and camcorder operation and offers a new swivel lens design that stacks dedicated DV and DSC lenses into one body. The new design offers a more compact package that is similar in size to other Mini DV camcorders but has all the features you've come to expect from individual DV camcorders and digital still cameras.

With the SC-D6040, you can switch between a 4.1-megapixel digital still camera and a DV camcorder at the push of a button for no-compromise photos and the power to record great digital video. The DuoCam also comes equipped with a multilanguage on-screen display, offering a choice of menus in English, Spanish, French, German, Italian, or Portuguese.

The SC-D6040's 680,000-pixel CCD and lens system deliver high-quality video and a 10X optical zoom for precision control over what's being filmed. The 2-inch Optimum Vision LCD screen built into the DuoCam makes shooting and playback a breeze, and there is also a color LCD viewfinder. The SC-D6040 utilizes Samsung's Power Nite Pix™ technology for capturing low-light video and additionally supports an MPEG-4 video clip recording onto flash memory cards. USB and IEEE 1394 ports are included for fast data transfer between the camera and a PC or Mac.

For stellar digital still pictures, the DuoCam SC-D6040 features a 4.1-megapixel CCD (2,272 x 1,704 resolution), 3X optical/12X digital zoom, built-in auto flash, and Schneider Optics. The DuoCam also supports the use of several flash memory card types, including Memory Stick, Memory Stick Pro, Secure Digital cards, and MultiMediaCards.

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Camcorder

- Zoom Lens: 10X Optical; 900X Digital
- 680,000-Pixel CCD
- 2.5-inch, 123,000-Pixel LCD
- Easy-Q/EZ Navigator
- 0 Lux Power Nite Pix
- IEEE1394 In/Out

Camera

- Zoom Lens: 3X Optical; 12X Digital
- 4.1-Megapixel CCD For DSC (2,272 x 1,704)
- Multi-Card Slot w/16MB Memory Stick Included
- Built-In Auto Flash
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- MPEG-4 Video Clips (15fps, VGA)
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- Color Viewfinder

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Fisher FVD-C1 Pocket CameraCorder
MSRP $699.99
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Fisher FVD-C1 Pocket CameraCorder

As the Apple's iPod and iPod mini have shown, consumers are extremely receptive to well-designed, ergonomic portable entertainment products that are easy to use and interface seamlessly with a PC or Mac. The Fisher FVD-C1 Pocket CameraCorder, made by Sanyo, is such a product: a tapeless digital camcorder/camera that encourages "video spontaneity" by eliminating the need to lug around both a bulky camcorder and a separate still camera. Unlike other hybrid devices that seriously compromise video recording time or offer mere camera-phone-quality still images, the C1 is a fun-to-use, truly high-performance device that looks and feels like no other.

The Fisher C1 fits in your palm and is a completely thumb-operable, high-resolution digital camcorder/camera that anyone can grab on the go to capture the fun of life's spontaneous moments. Then just slip it back into a pocket or purse as easily as a cell phone.

The pocket-sized C1 weighs just 5.4 ounces (without its Li-Ion battery or memory card; it weighs 6.1 ounces with them) but delivers 3.2-megapixel still images plus a full half-hour of MPEG4 high-resolution, full-motion

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video. It's the first flash memory camcorder to offer just the right combination of size, ergonomics, and excellent quality video/photo performance, plus enough recording time to make it a viable alternative to bulky separate devices.

The CameraCorder is completely tapeless, recording both MPEG-4 video and JPEG still pictures to an included, postage-stamp-sized 512MB SD (Secure Digital) flash memory card, which lets you record up to 30 minutes of full-motion VGA video (640 x 480 resolution) and 80 minutes of VHS-quality video. Stills are true 3.2-megapixel images, and up to 491 (2,048 x 1,536 pixel) images can be stored on one 512MB SD card (up to 3,931 images at 640 x 480 pixels).

Because video and stills are recorded as digital files, uploading to a PC or Mac is fast via USB 2.0. Included Ulead software lets users view and edit files, then ready them for burning to DVD. And with the Multimedia Docking Station (comes in the box with along with a miniremote), you can instantly watch your video and pictures on TV.

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For movie and music enthusiasts, the Pioneer HTZ-940DV provides the ultimate experience in home theater technology, versatility, and design right out of the box. Offering the best in Pioneer technology, the ultra-flat panel speakers (measuring only 1 3/16") include an entirely new acoustic design concept that utilizes NXT™ SurfaceSound™ technology. This feature generates sound waves from a flat acrylic panel and built-in wide-range tweeters. In the end, users get the clearest, richest sound possible when viewing movies or listening to music. The single-disc, progressive-scan DVD player offers 450 watts of power with integrated receiver that can play DVD, DVD-Audio, SACD, DVD-R, DVD-RW, CD-R, CD-RW, and Video CD media, as well as MP3 files. The perfect companion piece to a Pioneer PureVision™ Plasma TV, this home-theater-in-a-box system is

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designed in a sleek silver and aluminum finish, providing quality performance, as well as style.

The HTZ-940DV is designed for easy setup and use. With just a few color-coded connections on the speaker terminals, users get the final piece to their home theater system. By choosing the Room Set-Up feature located on the remote control, users are able to select one of three room sizes and seating positions that best suit their room layout. For better performance the system will then automatically select the optimal acoustic settings and deliver the best home theater experience.

You can find the Pioneer HTZ-940DV Home Entertainment A/V System at Best Buy or select specialty retail stores.

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lifestyle close-up

Digital Cameras

Why are digital cameras becoming so incredibly popular? The answer is simple. As in, they're simple to use and they make it simple to keep the pictures you want and get rid of the ones you don't without having to pay to develop everything you snap.

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Some of our favorite electronic gadgets are the ones that provide the sounds and pictures that move and entertain us. Whether you're into elaborate home theater setups or just want help using the latest TV and stereo equipment, A/V Club can help.

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Digital Studio

Digital cameras and camcorders are changing the way we record the moments of our lives, from quick snapshots of favorite vacation spots to priceless video clips of first steps and other important milestones. Get to know that new digicams or camcorder with help from Digital Studio so you don't miss a shot.

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©2004 Fisher Multimedia. All rights reserved. LCD screen image is simulated. As of October 1, 2003 the Fisher FVD-C1 CameraCorder™ is the world's smallest/lightest high-resolution MPEG-4 video camera and 3.2 megapixel digital still camera combined in one unit for consumer use.

CE @Home

It's sometimes hard to remember what life was like before cell phones, PDAs, digital music players, and assorted other digital goodies came along. Now we're more connected, organized, and entertained than ever before, but we also have more batteries to charge, too–and more buttons and menus to keep track of.

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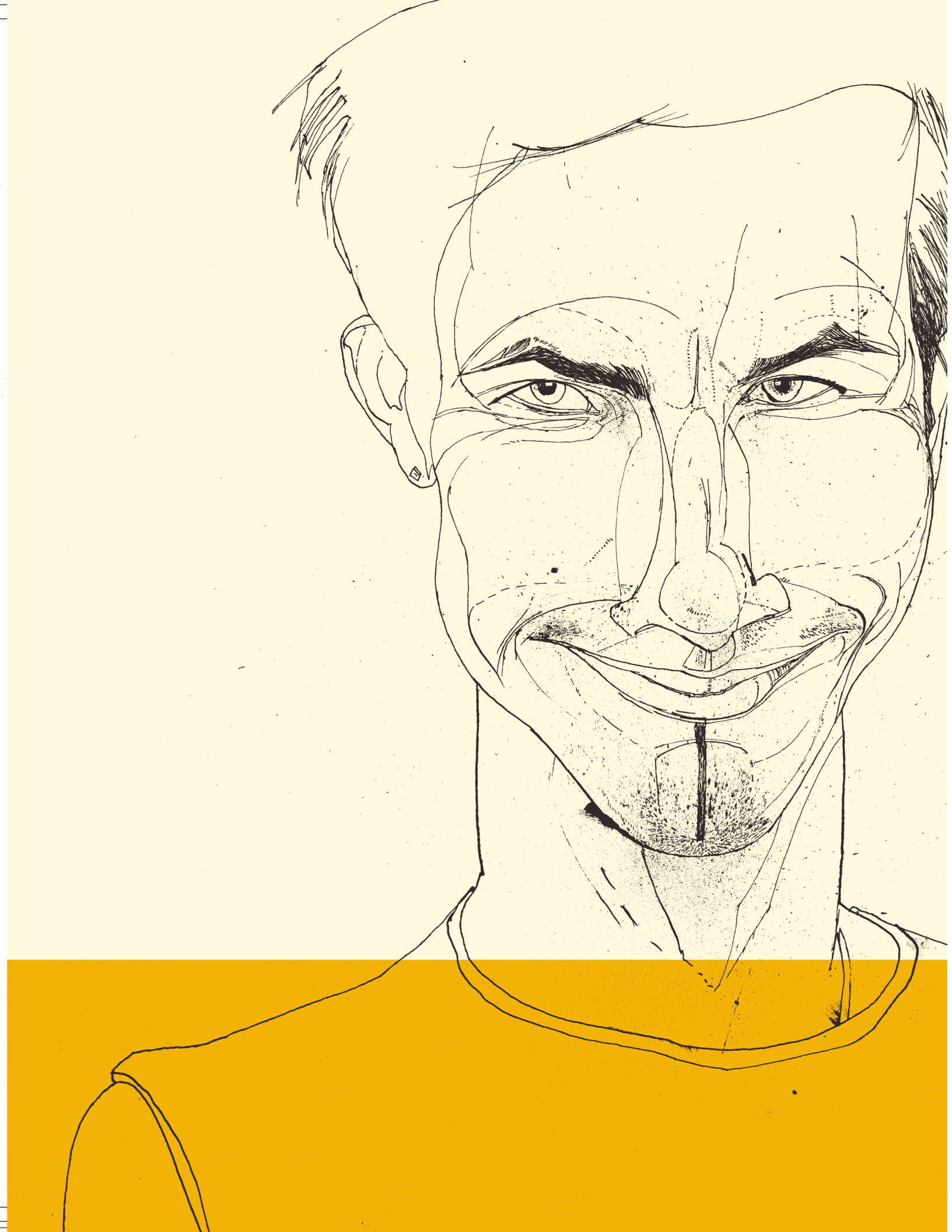

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You can find the Pioneer DVR-520H-S DVD recorder at Best Buy or select specialty retail stores.

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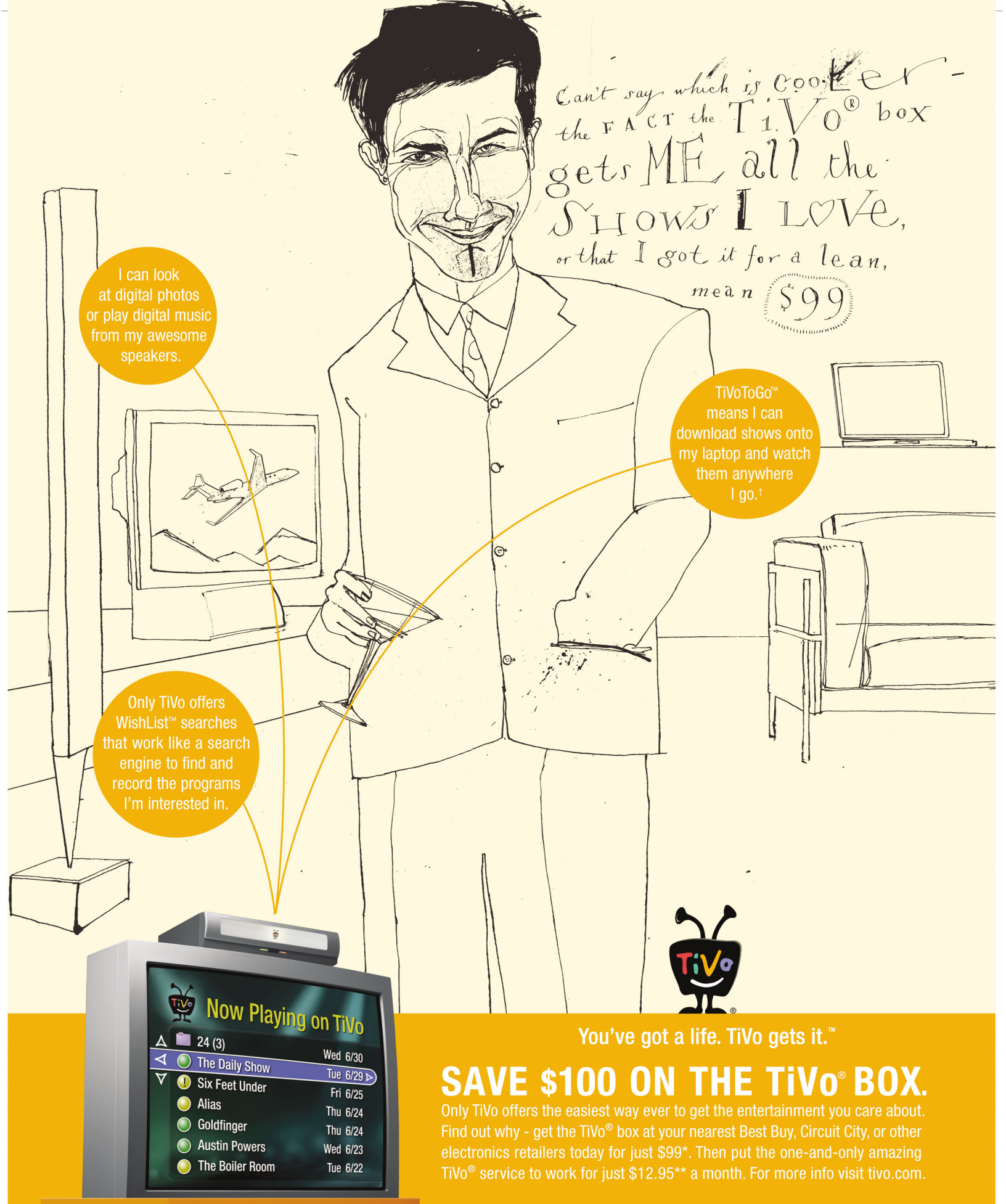

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ce news

BY TRACY BAKER

Color & Images On iPods

With all manner of devices hitting the market that play compressed music, as well as display pictures and video, it seemed inevitable that Apple would unveil a new multimedia-ready iPod. Not so. The new 40GB iPod Photo ($499; www.apple.com) and 60GB iPod Photo ($599) models recently announced by the company have backlit color LCD screens that can display full-color images stored on the device, but there are absolutely no video playback capabilities.

The 2-inch screen can display any of more than 65,000 colors, comparable to output from the current crop of color PDAs, and although the basic interface remains the same, it's been upgraded to take advantage of the new palette. The new Photo Library interface displays up to 25 photo thumbnails on the screen at once, and when you select one using the iPod's scroll wheel, it expands to fill the entire display. iTunes, the music-management software that lets iPods communicate with PCs and Macs, also received an update that lets it act as a photo organizer.

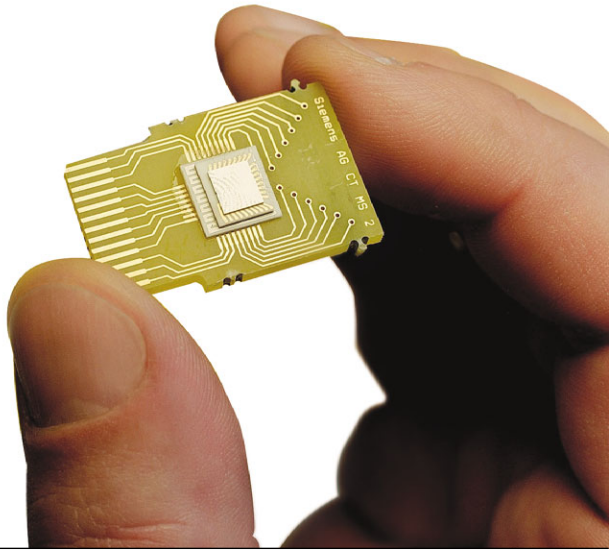
Despite the new features, relatively large storage capacities, and a color screen, Apple reports that the battery life of the new machine is better than that of earlier iPods. The company claims that the device can play music continuously for up to 15 hours or can display image slideshows while music plays in the background continuously for up to five hours.

Hello? You Have Halitosis

Siemens' mobile device division recently developed a small chip containing sensors that can detect a variety of gases, and that may warn cell phone users if they have bad breath. Depending on the sensors used, the chips also can determine a user's blood alcohol level, sniff for gas leaks, or tell when a driver has fallen asleep and set off an alarm to wake him.

. . . and that may warn cell phone users if they have bad breath.

Siemens claims that the tiny chips require only a few milliwatts of power to function, making them perfect for use in mobile devices, and they have the potential to become next-generation fire detectors. Modern smoke detectors sense heat changes or check to see if smoke particles block a stream of radioactive energy, but the new sensors from Siemens can detect the actual gases associated with fires if they are configured to do so and can thereby alert users a fire is starting well before any smoke is generated.



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"TiVo" For Satellite Radio?

Forget about Wi-Fi, XM Radio is hoping to capture the hearts, minds, and wallets of music junkies with partner Delphi's MyFi handheld satellite radio receiver ($349.99; www.xmradio.com). The tiny unit has a generous six-line black-and-white LCD to display channel, track, and other information, but its biggest selling point is an internal memory bank that stores up to five hours of audio from any of XM's 122 channels and lets users pause broadcasts.

One of the main problems with satellite radio units is that they require a clear view of the sky at all times to pull in weak satellite signals. A handheld unit such as the MyFi is virtually worthless without recording abilities because every time you slip the device into a purse, duck into a subway, or walk into a building, the signal gets disrupted. With the MyFi you can record several hours' worth of content to listen to when the connection is severed, and the device is powered by a rechargeable battery that XM claims will run the unit for up to five straight hours.

Although this unit obviously is designed for use with headphones, it comes with an integrated FM tuner that can broadcast XM channels to any FM radio, making it more useful in the car and in the home. The device comes with a multitude of additional accessories, including a small remote control, a home accessory kit, a car accessory kit (with a cassette tape adapter), headphones, a belt clip, and a carrying case.

Handheld Devices Get More Secure

IBM, Intel, and NTT DoCoMo have collaborated to develop what they call the Trusted Mobile Platform (www.trusted-mobile.org), a new security standard intended to provide better protection to users of handheld devices. The new standard offers different levels of security, depending on how many layers of related software and hardware are incorporated into a mobile device using the technology.

The technology was designed to make sensitive transactions, such as online payments via handheld devices, more secure. TMP also helps protect devices against viruses, which are expected to become more prevalent as consumers rely on handhelds to conduct more and more business. The software and hardware work together to let the device securely communicate with merchants, banks, and other businesses at the same time, so transactions are still fairly speedy. For example, you can browse concert tickets via a PDA, submit a secure request to the ticket seller, pay for the tickets from your bank account, and download the tickets to your PDA. At the concert, using your PDA, you wirelessly transmit tickets to gain admission. The security system makes it impossible to forge tickets because they're digitally signed by the ticket company before being sent to your PDA. If the numbers don't match, you stand outside while the paying customers rock out.

Microsoft PlaysForSure Matches Players To Music

A staggering array of digital music player and online music service combinations exist, and it isn't always easy to know if your device is compatible with any of the many music download sites. Microsoft recently launched a PlaysForSure program that can help you cut through the thicket of choices and make sure the hardware you buy will work with the music services you want to use.

When you see the triangular PlaysForSure logo on hardware that plays digital music, you know immediately that it's compatible with all of the music services listed at www.playsforsure.com, such as MSN Music, Musicmatch, Napster, and Wal-Mart Music Downloads. Alternatively, if you see the logo at an online music download or subscription site, you can be sure that music on that site will work with any hardware bearing the PlaysForSure logo.

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ECCO 5.1 DX
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m a r k e t p l a c e

Handheld Market Continues Downward Spiral, Despite Some Gains

Shipments for handheld devices have declined for the third quarter in a row in 2004, according to a new study from IDC. A few companies, such as Dell and HP, managed to increase sales, but the sales numbers couldn't make up for the overall declines in shipments posted by palmOne. IDC also cites Sony's withdrawal from the PDA market as a factor in the sales slippage.

Top 5 Vendors, Worldwide Handheld Device Shipments & Market Share, 3Q 2004

Rank	Vendor	3Q 2004 Shipments	3Q 2004 Market Share	Market Share Increase/Decrease Since 2Q 2004
1	palmOne	736,481 (-20.3%)	34.7%	-6.9%
2	HP	648,975 (+22.4%)	30.6%	+6.7%
3	Dell	188,200 (+29.7%)	8.9%	+2.3%
4	MiTAC	68,500 (+210%)	3.2%	+3.2%
5	Sony	44,192 (-74.8%)	2.1%	-5.8%
	Other	436,644	20.6%	
	Total	2,122,992 (-4.6%)	100.0%	

Source: IDC

Christmas For CE Vendors

The holiday season is over, and according to a Consumer Electronics Association study, consumer electronics companies are busy counting their windfalls. Highlights include:

The typical U.S. household was expected to spend $600 on gifts over the holidays, for a total of $63 billion.

76% of shoppers plan to buy at least one piece of CE gear as a gift

30% of shoppers plan to buy a gift certificate from a CE retailer

29% of shoppers plan to buy a digital camera, up 5% from last year

25% of shoppers plan to buy a DVD player, down 6% from last year

9% of shoppers plan to buy a plasma-screen TV, the No. 1-ranked most-wanted CE gift

tidbits

SanDisk announced the development of a 4GB Memory Stick.

Source: SanDisk

IPGs (Interactive Program Guides), such as the one included with TiVo service, will be a $1 billion market by 2008.

Source: InStat/MDR

You can now find digital cameras in 59% of all homes that have Internet access, up from 45% in 2003.

Source: InfoTrends/CAP Ventures

Nearly 70% of all legal music downloads between December 2003 and July 2004 were made through Apple's iTunes service.

Source: NPD Group

Hard drives in CE devices represented approximately 5% of the total hard drive market in 2003, but with increasing storage demands, that number is expected to rise to 33% by 2008.

Source: InStat/MDR

Viewers in more than 37 million homes will watch HDTV broadcasts by 2008, compared to around 7 million homes in 2004.

Source: Strategy Analytics

Overall CE prices fell throughout August 2004, with "market basket" prices dropping 29% ($5,000) compared to January 2003 prices. DVD player prices fell the most in August (16%) to an average of $46.61 compared to July figures.

Source: NPD Group

Advertisement

Pioneer AVIC-N1

MSRP $2,000

www.pioneerelectronics.com

Pioneer AVIC-N1

An industry first in mobile electronics, the Pioneer AVIC-N1 in-car navigation system merges entertainment, information, and vehicle dynamics into a single product created with driver convenience and safety in mind. The system is designed for easy use on a 6.5-inch LCD touch screen monitor or by voice command, so you can simultaneously access route navigation, entertain passengers with radio or television, and monitor vehicle performance.

- The in-car navigation aspect provides step-by-step instructions to over 12 million locations across the country, complete with addresses and phone numbers. With familiar gas, food, and hotel icons, such as KFC ® or Starbucks ® overlaid onto the map on-screen, you get the most accurate driving directions in as little as 10 seconds.
- No matter where you're going, you need to make sure your vehicle is at its top performance. The AVIC-N1's Vehicle Dynamics display provides real-time vehicle performance data, including compass and clock, as well as dynamic features such as acceleration and braking, lateral G-Force, speed, and angular velocity.
- The audio-video entertainment system is a state-of-the-art tool with full front and rear separation capabilities, as well as DVD video playback, single CD audio playback, and MP3 CD and AM/FM/XM satellite radio capabilities that keep passengers occupied and amused. With revolutionary Memory Navigation technology, you can search and store your preferred driving routes, eject the navigation map disc, pop in a DVD for the passengers, and still have the route data and map displayed on-screen.

Want the full story? Visit www.avic-n1.com for more details.

Pioneer sound.vision.soul

shelfwatch

BY GREGORY ANDERSON

We're gadget nuts, and we're not alone. But more exciting than specs and features are the things they can do to make life easier. Here are a few examples of the cool things we're finding on the shelves.

RIM Blackberry 7100t

$299.99

www.blackberry.com

After years of great mobile email products, Blackberry has finally released a true smartphone. The new 7100t, available first on the T-Mobile network, has a unique keypad and full email capability, including attachments. Browse the Web with its big color screen and Bluetooth connection. Time to "lose" your phone again.

SanDisk Photo Album

$49.99

www.sandisk.com

Forget the title. SanDisk's new device makes it easy to play image, video, and music files from your TV and stereo. Just plug the video and audio outputs into your system and insert a card. Any card. The Photo Album supports CompactFlash, SD/MMC (Secure Digital/MultiMedia Card), Memory Stick, and SmartMedia xD media plus USB (for connecting Memory Sticks or PCs). Plug in and display pictures (JPEG [Joint Photographic Experts Group]) or play music (MP3) and video (Motion JPEG or MPEG-1) clips from any supported media source.

Introducing the new HP iPAQ h6315 Pocket PC only from T-Mobile. It's the all-in-one device that lets you go into the office, without going into the office. Get the most *WHENEVER* minutes,® unlimited e-mail and unlimited Web browsing, plus Wi-Fi access at thousands of HotSpot locations nationwide. Find out more at www.t-mobile.com/ipaq or call 1-800-TMOBILE.

You really should get out more.

hp invent

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A wireless service contract with T-Mobile USA and other devices enabled with Bluetooth wireless technology may be required for applicable wireless communication. Not all Web content may be available. Restrictions apply. See a retail brochure for details. T-Mobile is a registered trademark of Deutsche Telekom AG. hp is a registered trademark of Hewlett-Packard Development Company, L.P. © 2004.

iRiver H2O Audio SVi700

$99; $129 with armband

www.iriveramerica.com

Don't let a little water get in the way of your music madness. H2O Audio's waterproof housing for iRiver iFP-700 music players keeps your tunes dry while you splash about. The window provides easy access to player controls, and the included headphones might even keep your ear canals from plugging up.

Bose SoundDock

$299

www.bose.com

Bose knows speakers, and it now has a speaker for your iPod. Drop your iPod into the dock and play. You don't need cables or adapters, and the dock charges your iPod while you listen.

Sony LF-X1

$1,499.99

www.sonystyle.com

The LF stands for Location Free. As in "location-free TV." As in "portable broadband LCD television system." As in "you can catch the local news from halfway around the world." Leave the base station plugged in on the entertainment center and take the 12.1-inch LCD screen with you anywhere. Within range of wireless broadcasts (100 feet or so), stream the TV feed directly from the base. When you leave home, grab the TV signal from anywhere as long as both units have high-speed Internet access.

Advertisement

Sharp Wireless AQUOS™
LC-15L1U-S
MSRP $1,799.99
www.sharpusa.com

Sharp Wireless AQUOS™ LC-15L1U-S

The Wireless AQUOS™ LC-15L1U-S with a built-in rechargeable battery and wireless A/V center is less than 3 inches deep and has a screen that measures 15 inches diagonally. Carry the TV around your home and watch TV up to 50 feet from the A/V center without worrying about power cords. And with Sharp's proprietary Advanced Super View LCD panel, the picture quality is as spectacular as all other AQUOS™ Liquid Crystal Televisions.

15-inch ASV (Advanced Super View) LCD Panel

A Sharp panel with Black TFT low-reflection coating.

Built-In Rechargeable Battery

Enables you to watch TV or DVD for up to three hours without power cables.

Wireless A/V Center

Transmits TV, DVD, and VCR signals wirelessly to the AQUOS™ TV, up to 50 feet away.

60,000-Hour Lamp Life

Sharp's LCD backlight life is long enough to give you viewing pleasure for many years.

Image Inverter For Custom Installations

Lets you turn the image upside-down or display a "mirror" image if you need to hang the set in an unconventional manner.

170°/170° Viewing Angles

So wide you can view AQUOS™ Liquid Crystal Televisions from anywhere in the room.

Carry Handle/Table Stand

The ultimate in convenience; carry your AQUOS™ easily from room to room or detach the one-piece stand for wall mounting. Also included is a docking station to place the TV securely if desired.

500:1 Contrast Ratio

Provides incredible images whether you're watching dark or bright scenes.

SHARP®

Logitech Mobile Freedom

$69.95

www.logitech.com

Prices for wireless Bluetooth headsets are starting to approach reasonable levels. After all, what good is hands-free when you're cable-tied? The wraparound earpiece and mini-boom microphone give you 30 feet of range from your Bluetooth-enabled phone. Logitech promises seven hours of talk time and 300 hours of standby on a charge. As prices keep dropping, they'll be more and more attractive.

Panasonic SC-HT1500

$999.95

www.panasonic.com

Why buy a separate home theater system, DVD recorder, and DVR (digital video recorder)? Panasonic's SC-HT1500 kills three birds with one stone. The sleek 5.1-channel system includes a receiver with a DVD player/recorder and hard drive. Record to DVD-R or DVD-RAM media and play back commercial DVDs and CDs, MP3 discs, DVD-R, DVD-RAM, and DVD-Audio. The included electronic programming guide lets you know what's on and when, and the 80GB hard drive keeps you from missing anything.

Boston Acoustics P400

$1,500

www.bostonacoustics.com

Boston's P400 Slim Theater Speaker combines the left-, center-, and right-front channels of your home theater system onto a single chassis. If space is at a premium (or you prefer an uncluttered room), this combination of three speakers covering low, mid, and high frequencies will do the trick. You can angle each speaker 15 degrees up or down, and the entire chassis is magnetically shielded so it won't disrupt your TV's picture no matter how close it sits.

Advertisement

Samsung YH-999
Portable Media Center
MSRP $549.99
www.samsungusa.com

Samsung YH-999 Portable Media Center

Samsung's YH-999 Portable Media Center is a handheld entertainment device that makes it easy to store and play recorded TV, movies, home videos, music, and photos transferred from a PC with Windows® XP so you can enjoy your favorite entertainment anytime and anywhere you want. This pocket-sized powerhouse takes convergence to a new level and makes playback a cinch, whether you're listening with headphones, viewing via the 3.5-inch LCD screen, or using the A/V out port to send content to another device.

Samsung's YH-999 Portable Media Center enables you to carry 20GB of your favorite movies, music, and pictures. It supports the WMV, WMA, MP3, and JPG file formats and is compatible with MPEG, MPEG-2, MS-DVR (Media Center TV files), ASF, AVI, WAV, and MIDI files, which can all be downloaded using the built-in USB 2.0 port. You can also use Windows Media Player to sync music libraries, recorded TV, video, and pictures to the YH-999 Portable Media Center and to create custom playlists. Other features include easy-to-use Windows Mobile software, simple controls and settings, intuitive navigation, and content bookmarking.

Housed in a tiny 3.82-inch x 4.21-inch x .83-inch format and weighing a svelte half pound, Samsung's YH-999 Portable Media Center comes equipped with a Li-Ion rechargeable battery, charging cradle, and composite A/V out. (An IR remote controller and set of headphones are also included.)

SAMSUNG

extreme ce

when money is no object

Welcome back to the column that raises the mantle for stocking stuffers (for next year). We hope your holidays were happy.

Niveus Media Center: Denali Edition HDTV

$3,999 • www.niveusmedia.com

Running out of shelf space? You can put your entire DVD collection at your fingertips with a Niveus Denali Edition Media Center. Denali uses Microsoft XP Media Center Edition 2005, ample hard drive space, and high-end digital audio/video processing technology to store your high-definition movies, audio, even home videos and photos in one sleek central location. You can serve up any title in your digital library from the comfort of your remote control. As with TiVo and other increasingly popular services, Denali also lets you pause or rewind live TV.

D-Box Odyssee Motion Simulator

$20,000 • www.d-box.com

You have the widescreen television and the amazing surround sound. Add a D-Box Odyssee system, and your home theater experience can be downright moving. The D-Box consists of a control unit that sends "motion codes" to a set of actuators (specialized hydraulic pistons) installed beneath your furniture, causing your couch or chair to move with the action on the screen. You can download motion codes for most popular movies and video games. The best part is, you can use the Odyssee system with your existing furniture. Who says you need to take your entertainment sitting still?

VizuaLogic A-2000 All-In-One Headrest Monitor/DVD System

$1,999 per headrest • www.vizualogic.com

Over the river and through the woods, to grandmother's house you go . . . while the kids watch "The Santa Clause 2" in back. VizuaLogic supplies head rests retrofitted with a bright 9-inch color widescreen and a side-loading DVD player. Independent input selection lets passengers watch the same source or different sources simultaneously on multiple units, and the A-2000 comes complete with an auxiliary port for the gamers in the family.

compiled by Sean Doolittle

Advertisement

Pioneer PureVision Plasma Television PDP-4345HD
MSRP $9,000
www.pioneerelectronics.com

Pioneer PureVision Plasma Television PDP-4345HD

Offering the purest image quality possible in a flat-panel display, the PDP-4345HD achieves the sharpest levels in color, brightness, and contrast. The PDP-4345HD applies a number of Pioneer's exclusive technologies, allowing you to easily immerse yourself in the larger-than-life images provided on-screen. A key feature is Pure Drive™, which eliminates unnecessary conversions between analog and digital signals and allows for greater signal control and far higher video quality. This means that any analog signals from your analog cable or VCR are converted to digital and never reversed. Digital signals remain intact; ultimately you get the highest-quality image on-screen.

Pioneer has also equipped the television with a digital-cable-ready tuner. Just call your cable company and request a cable card, which activates the cable channels in the television and completely eliminates the need for a bulky cable box.

Up to now, watching movies at home on television was never quite the same as watching them in a theater. But thanks to Pioneer's exclusive Advanced PureCinema ™ technology, it's like you never left the theater. Advanced PureCinema™ reproduces material on DVD, videotape, and broadcast television smoothly and naturally, so it appears just as it would on the silver screen.

You can find the Pioneer PDP-4345HD PureVision Plasma Television With DCR at Best Buy or select specialty retail stores.

For more information on PureVision TV, visit www.pioneerpurevision.com

Pioneer sound.vision.soul

Philips Pixel Plus 2 LCD HDTV: how-tos

Philips Pixel Plus 2 LCD HDTV
$8,999.99
www.usa.philips.com

LCD TV technology has come a long way in the past few years, as Philips' beautiful 42-inch Pixel Plus 2 LCD HDTV (the 42PF9996/37) shows. This is among the best LCDs we've looked at, but the set is not without its quirks.

Out Of The Box

You'll need some help unpacking this TV because even though it is only a few inches thick, it still weighs 77.1 pounds. All the tools you need to assemble the set's stand are included, although wall-mounting requires some extra equipment.

The TV's audio and video jacks point straight down for simpler cord management and to make flush mounting easier, but this also is a drawback because it is nearly impossible to see the connections. It'll be easy for you to use the TV's audio connections because the TV has only one set of left (white) and right (red) RCA jacks for each input. The Philips Pixel Plus 2 has several video connection options you can choose from, and whenever possible you should use the digital HDMI (High-Definition Multimedia Interface) input. This is a digital TV, so connect the digital HDMI input to a set-top box, DVD player, or other device that has an HDMI or DVI (Digital Visual Interface) output that provides the absolute best video quality. HDMI is backward-compatible with DVI, and you can buy an adapter cable should you need one.

Many DVD players, set-top HDTV boxes, and video game consoles support component video output, and you should use these connections if HDMI is not an option. Component video is also the only way (besides HDMI and DVI) to take advantage of progressive-scan signals from devices that support that feature. If your gear doesn't support DVI, HDMI, or component video, the next step down is S-Video, followed distantly by the yellow RCA inputs. If your video components rely on RCA output, you should consider replacing them with equipment that supports S-Video or better output, as you'll benefit from much better performance from this high-end HDTV.

Fine-Tune The TV

Turn on the television, switch to an active input (preferably one that is displaying a black screen), and look for dead pixels (picture elements). Pixels are the small dots that change color to create on-screen images and video, and in LCD products, each pixel is controlled by its own transistor. If one transistor shorts out or the liquid crystals it controls have other problems, the pixel can become permanently stuck so that it always displays one color. One or two dead pixels are practically inevitable,

The HDMI connection is the best one to use if you have HDMI-compatible components, such as a DVD player.

but not necessarily acceptable, so be sure to purchase the television from a store with a generous return or exchange policy so you can swap the TV for a replacement if the dead pixels get on your nerves. More than one or two dead pixels on a television in this price range is totally unacceptable, and you should contact the manufacturer for a replacement if the retailer gives you a hard time.

When making picture adjustments, remember to configure each input separately. This lets you fine-tune each input based on the hardware connected to it, so remember that if you ever upgrade or swap A/V components, you'll have to recalibrate the affected inputs.

You can access most of the TV's settings by pressing the Menu button on the remote control, using the cursor keys to highlight options and using the OK button to select a highlighted entry.

This TV's vibrant colors are great when you're watching material shot in daylight, but you may notice that portions of the screen that are supposed to be pure black are instead very dark blue. This is an inherent drawback associated with LCD televisions because the pixels are backlit by long fluorescent lights. Because the backlights are always on when there's any kind of signal (even a pure black screen), some light invariably leaks through every portion of the pixel grid, boosting the black level to a dark grey, which has a bluish tint on this set.

You can't dial out this defect completely, but you can compensate somewhat by adjusting the brightness control, which controls the set's black level. The black level determines the point in a video signal where the truest possible black is displayed. Set it too low, and dark grays become pure black, hurting shadow detail. Set it too high, and black portions of the screen become dark grey, hurting contrast. Use a test pattern from a DVD such as Ovation Software's Avia Guide To Home Theater ($49.99; www.ovationsw.com) or a dark scene from a DVD to set this value, which you'll find in the television's Picture menu. On our television, a setting between 60 and 70 achieved the best results.

You also need to use the Contrast control (also found in the Picture menu) to adjust the set's white level for each input. This establishes the overall brightness of the set by determining how bright whites can become. Setting it too low makes the picture look dim and mutes colors, while setting it too high washes out video. We found that settings between 75 and 90 worked best, depending on the video source.

Philips touts the set's Ambilight technology, which projects light behind the set to ease eyestrain when watching TV in

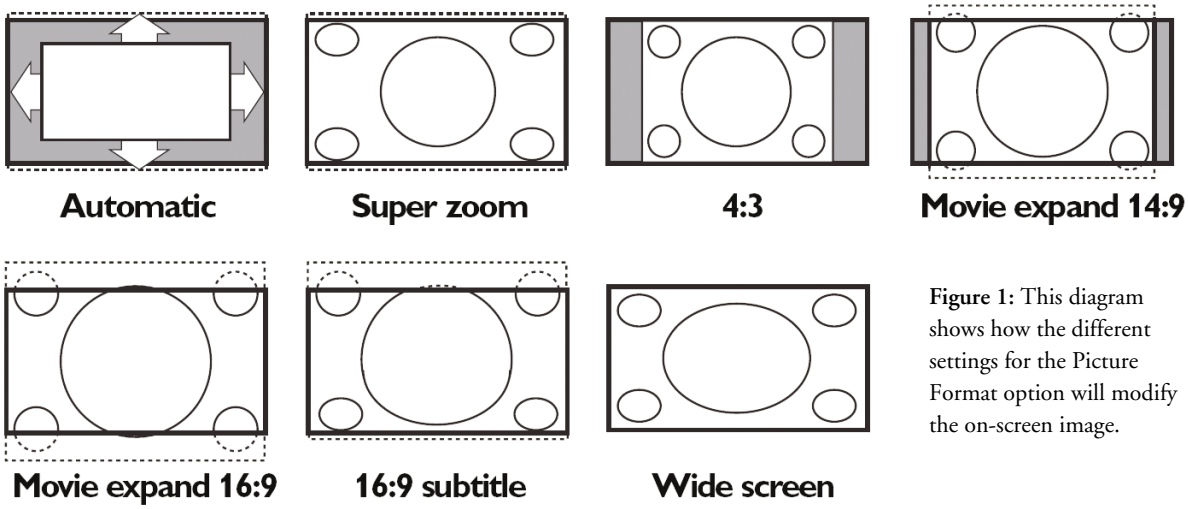


Figure 1: This diagram shows how the different settings for the Picture Format option will modify the on-screen image.

a dark room. Press the Ambilight button on the remote to cycle through different color options to see which one suits you.

Switching among video inputs is a chore if you use the TV's menu system. Save some time by pressing the OK button on the remote, selecting the input with the cursor keys, and pressing the OK button again to make the switch.

This TV has more sound-related options than most sets, accessible by navigating to the Sound drop-down menu from the main TV menu. One of the most interesting options is the equalizer, which lets users adjust the balance of sound levels ranging from 120Hz to 10KHz. Adjust the 120Hz setting to affect bass levels, the 10KHz setting to adjust high-pitched sound output, and the middle settings to tweak dialogue levels. The set comes with decent speakers, but when using a product of this quality we recommend budgeting for a good surround-sound speaker setup. You might as well get the most out of your movies and games if you're dropping this kind of cash.

Adjust The Aspect Ratio

Most video content is scaled to fit the television screen, and it helps to know how the various modes work in practice, so you can see the maximum amount of picture with the minimum amount of distortion. To access the Picture Format menu, expand the Picture drop-down menu on the main TV menu and navigate to the appropriate entry or press the Screen Format button on the remote control. The options that appear depend entirely on the content you're watching. High-definition sources (720p and 1080i) are fixed—there is no way to expand or contract the picture. This is a shame because 720p content looks incredible but does not fill the entire screen, while 1080i content looks slightly grainy and fills the entire screen.

When viewing 480i or 480p content that has a 4:3 aspect ratio, such as standard television programs or certain DVDs, the 4:3 setting is the most accurate but leaves gray letterbox bars on the sides of the screen. Super Zoom stretches 4:3 video so it fills the entire screen, with the middle unaltered but the outer edges distorted. This works well for news programs that tend to have one person centered in the middle of the screen. Wide Screen stretches all of the video to fit the entire screen, distorting everything. Look at the example images included here (Figure 1) to see how each setting affects the video.

If you don't like the way stretched video looks or want to reposition video that does not fill the entire screen, press the cursor keys to move the on-screen image. This is a boon if a critical portion of the video is cut off, which is a big problem in video games.

BY TRACY BAKER

Advertisement

Sharp AQUOS™
LC-45GX6U
MSRP $8,499.99
www.sharpusa.com

Sharp AQUOS™ LC-45GX6U

Sharp's LC-45GX6U AQUOS™ is a state-of-the-art 45" widescreen HDTV that can easily enhance the decor of any family room, living room, or den. The LC-45GX6U is the largest LCD-TV available with a built-in HDTV/CableCARD™ system, and it displays all content in full HD spec (1080p) resolution, the highest of the DTV resolutions. With a true 16:9 aspect ratio, full HDTV resolution of 1,920 x 1,080 and breathtaking color purity, it is a next-generation TV to carry you into the high-definition future. The LC-45GX6U utilizes Sharp's proprietary Advanced Super View/Black TFT Panel, which provides levels of high brightness (450cd/m2), an 800:1 contrast ratio, and wide viewing angles (170° x 170°). The LC-45GX6U with full CableCARD™ Plug and Play capability also features an elegant new design with detachable speakers to ensure the sound is as outstanding as the picture. In addition, the included table stand can be easily removed for wall-mounting applications.

Other features that distinguish the LC-45GX6U: an AVC System (TU-GD10U-T) that houses all terminals for convenient connections; HDMI, DVI-I, and two HD component video inputs; a PC Card slot, which allows you to record and view still images and video on a PC Card; and the next generation of Sharp's proprietary Quick Shoot video circuit, which enables a fast response time of less than 12ms.

SHARP®

Toshiba 32HL84 LCD TV: how-tos

Toshiba 32HL84 LCD TV
$3,799.99
www.toshiba.com

Think your new Toshiba 32HL84 looks and sounds good? With just a few simple tweaks, you can improve both the audio and video quality to get the most out of this sleek LCD HDTV.

Initial Setup

You may notice when you turn the TV on that when the screen turns completely black, there are some relatively bright spots in each corner of the screen. LCDs are backlit using fluorescent lights, and there is no good way to make the backlighting completely uniform, hence the pools of light in the corners. Also note that as the TV ages, the fluorescent lights may become dim, flicker, or go out completely, requiring professional replacement. Dead pixels (picture elements) are another problem inherent to all LCDs (see the description of dead pixels in the previous article, on page 38).

If you've read any of our other setup guides, you know the drill by now regarding audio and video connections. Use the TV's DVI (Digital Visual Interface) port for the best picture quality from high-definition sources, as it's an all-digital connection that is tailor-made for this digital HDTV. DVD and HDTV signals are digital, so by using the DVI port for these connections, the signal stays in perfect digital format all the way to the TV. No conversion to analog and then back to digital is necessary, which is preferable because converting a digital signal to an analog signal hurts video quality. Although most computer video cards have DVI output ports, this television is not compatible with signals from those cards.

The component video inputs offer picture quality that is almost as good as DVI, and these inputs support progressive-scan. If your DVD player and video game system support progressive-scan technology, connect them to the TV via these inputs. Use S-Video whenever component video is not an option and only use the yellow RCA video inputs as a last resort. Picture quality from those inputs is bearable but abysmal compared to that of the other types of connections.

On the audio side, there is only one choice—stereo connections to each input via the red and white RCA audio jacks. Don't confuse the TV's red component input jacks with its red RCA audio jacks, as the two look identical and are located side-by-side.

Adjust The TV

This TV's video settings are somewhat limited. If you have access to a calibration DVD such as Ovation Software's Avia Guide To Home Theater ($49.99; www.ovationsw.com), use it to make the following adjustments. Also be aware that you must make adjustments for each input (such as your DVD player

The component video inputs have the ColorStream HD labels and should be used if possible instead of the yellow composite or black S-Video connections.

and VCR) separately, as the TV maintains unique settings for each input.

To switch inputs, press the Input button repeatedly on the remote until you highlight the one you want, or press Input once and then press the number on the keypad that corresponds to the appropriate input. Press Menu to call up the Settings screen, use the cursor keys surrounding the remote's Enter key to navigate through the menus and adjust individual entries, and always remember to save the settings you've established so you don't waste your hard work.

There are preset picture settings, but we recommend fine-tuning the Toshiba set manually using the Preference mode. Contrast adjusts the white level, determining how bright the brightest whites displayed will be. Setting this too high causes whites to be too bright, erasing fine detail from video. Setting it too low makes video too dim, and whites look far less vibrant than they should. We found that a setting between 75 and 85 looked best with our test equipment.

Next up is the Brightness control, which sets the TV's black level. This determines the point where grays become pure black, so setting it too high makes pure black a dark gray, while setting it too low causes dark grays to become black, destroying detail in dark scenes. Settings between 45 and 55 worked best on our set.

We were able to leave the Tint setting alone but move the slider right to boost green levels or left to boost red levels. Most users abuse the Sharpness control because they feel that turning it up adds detail to images. It doesn't, and setting it too high hurts picture quality by making smooth curves look jagged and by creating faint rings around the edges of objects. Setting the sharpness between 0 and 25 worked best for us, and any setting over 50 is to be avoided altogether.

Navigate down the menu past the Save New Preference entry to see if DNR (Digital Noise Reduction) is available (it is not available if you selected the DVI input, as it only works for the analog connections). Turning this on smoothes video, potentially removing static from the picture, but in our tests we turned it off to get the best picture. You also can adjust the color temperature, selecting Cool to give video a bluish tint, Neutral to give it a yellow-orange tint, or Warm to give it a reddish tint. Cool only looked good for certain video games because it made whites brighter. For movies and HDTV television programs, we tended to prefer Neutral or Warm.

Navigate to the Audio menu where you can adjust Bass, Treble, and Balance and also turn on Stable Sound. This feature adjusts the audio so that the loudest sounds in a passage play as loudly as the softest sounds.

This TV's DVI connector is not labeled well and is difficult to spot because it points straight down, but look for the white plug.

The Theater menu contains other audio-related options, letting users enable Dolby Virtual or SRS 3D to create a fake surround-sound field using the TV's built-in speakers. The TV does this through tricks such as delaying the audio from one channel so it hits your ears at a slightly different time than audio from the other channel and bouncing sounds off walls so you hear them from different directions rather than straight ahead. When you enable SRS 3D, use the Focus option to tweak dialogue and TruBass to adjust low-frequency bass levels.

The set supports several picture modes, accessible by pressing the Pic Size button on the remote. The Natural setting places gray letterbox bars on the top or bottom of the screen depending on the type of video being displayed and is the best overall setting for image quality. The letterbox bars are there to fill empty portions of the screen that the video cannot cover when the video has a different aspect ratio than the TV. For example, video with an aspect ratio of 4:3 is four units wide and three units high, and this is the aspect ratio that television shows commonly use. When the 4:3 video is displayed on this 16:9 display, it is not wide enough to fill the screen, and letterbox bars appear on either side of the video to fill the excess space.

Theater Wide 1 stretches video with a 4:3 aspect ratio so it fills the entire 16:9 screen, leaving the center undistorted but stretching the picture closer to the edges of the screen. Theater Wide 2 expands the image to fill the screen without distorting it but cuts off the top and bottom edges, while Theater Wide 3 stretches the entire image horizontally to fill the screen and cuts off less of the top and bottom than Theater Wide 2. When using the Theater Wide modes, you can press Menu, access the Theater menu, and select Scroll to adjust the picture up or down (so you can make sure the TV displays the program's captions).

Other Features

A few of this set's best features are buried in the manual, and you don't want to miss them. For example, holding the Channel button up or down for a second enables SpeedSurf mode, which pops up a channel menu that lets you quickly scroll through available stations and select one. SurfLock is another great feature for channel-surfing between commercials. When you're tuned to a channel you want to eventually return to, hold down the Ch Rtn (Channel Return) button for a few seconds until a Channel Memorized message appears and start surfing. Then tap Ch Rtn to immediately head back to the channel that was memorized. Now you'll never miss a second of your favorite shows.

BY TRACY BAKER

Advertisement

Samsung TX-P3075WH DynaFlat HDTV
MSRP $999.99
www.samsungusa.com

Samsung TX-P3075WH DynaFlat HDTV

30-Inch Wide Neo Side-Sound Design DynaFlat™ HDTV With Built-In HD Tuner

The Samsung Neo Side-Sound 30-inch widescreen (16:9 aspect ratio) HDTV is ideal for viewing DVDs and HDTV broadcasts. The TX-P3075WH meets the 2005 FCC guidelines for an integrated digital tuner, which you can use to capture free over-the-air high-definition signals. HD can also be displayed from an optional equipped HD cable or satellite set-top box. Progressive-scan DVD players improve the picture by eliminating interline flicker. The TX-P3075WH is among only a few midsized TVs that can properly display progressive scan.

TV/Video

- Built-In HD/digital tuner (ATSC/NTSC) tunes and processes 720p, 1080i, 480p, and 480i signals
- Neo Side-Sound Design-full, rich audio with a clean, uncomplicated look
- 16:9 widescreen aspect ratio
- Native resolution 1080i/480p
- Dual HD supports 720p and 1080i HD signals
- DynaFlat™ HD anti-distortion, anti-glare flat picture tube
- Finer pixel dot pitch flat CRT improves picture resolution and brightness
- Pro Picture 3-stage video correction
  - Total DSP (Digital Signal Processing) analog-to-digital signal enhanced
  - Pro Chip Plus converts all analog signals to flicker-free progressive scan
  - 8-Bit 20MHz 3D Y/C comb filter
- Velocity scan modulation improves edge detail
- 3:2 pulldown film-to-video frame rate correction
- Convenient side-panel control key buttons for accessing menu settings without the remote
- Universal remote control
- Easy navigation with translucent on-screen display
- Screen-filling modes and vertical compression for anamorphic DVDs
- Digital program guide (where available)

Audio Features

- 20-watt side speaker audio system with sound presets and adjustable EQ
- BBE high-definition sound processing

SAMSUNG

TiVo Series2 DVR: how-tos

TiVo Series2 DVR
$99.99 to $299.99
www.tivo.com

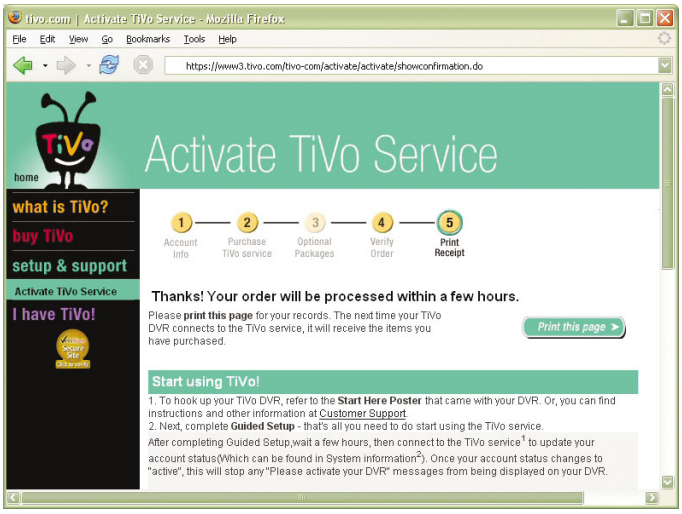
The TiVo Series2 DVR lets you automatically find and record TV programs, as well as control the playback of live television. In order to get started, you'll first need to activate the TiVo service. You can easily do this online; simply go to www.tivo.com/activate and follow the on-screen instructions. You'll need the 15-digit service number located on the back of your TiVo DVR, as well as your credit card information.

Next, unplug your cable box or satellite receiver from your television set. Connect it to your TiVo's video inputs instead. Then, use the additional RCA AV cables included with your TiVo to connect it to your television. Connect the TiVo's video output to the input of your television where your cable box used to be plugged in. Finally, connect the IR (infrared) Control cable to your TiVo and mount it on your cable box in front of its IR sensor. This is so your TiVo can control your cable box.

You'll also need access to a telephone jack. The TiVo downloads TV program information from the Internet through the phone connection. This means it doesn't need continuous access to a phone line like the original TiVo series did. However, you still need a telephone jack for the initial setup. If you're one of the technophiles who disconnected his land line and only uses a mobile phone, you're out of luck at the moment, though we expect this to change with the next generation of TiVo DVRs.

Once your new TiVo is all connected, power it up for the first time. Follow the on-screen Guided Setup prompts in order to set up your new TiVo. During the Guided Setup, you'll tell the TiVo such things as the name of your cable provider, your ZIP code, which television channels you receive, and what kind of cable or satellite receiver you own. This is the part where you will need the phone line hooked up; it will make two calls during the hour-long setup process. After that, you can either leave the phone line plugged in or you can disconnect the phone line and hook the TiVo up to a broadband Internet connection for further updates.

Now you're all set. Whenever you want to bring up the TiVo main screen, click the TiVo button at the top of the included remote control. Use the Season Pass Manager to automatically schedule recordings of your favorite shows throughout the television season, even if the show's time slot changes. You can even program your TiVo from the Internet in case you forgot to schedule a recording



Once your account is activated, you can turn on your TiVo and begin using its Guided Setup feature.

that you'll miss if you don't get home in time.

Wireless Multi-Room Viewing

Your TiVo can communicate with other TiVo units in your home. That way, you can record a show on one DVR and then transfer the show to another TiVo DVR in any room in the house. Here's how to do it:

First, you need to own at least two TiVo Series2 (or compatible) DVR units. The main subscription fee costs $12.95 per month; additional TiVo units are $6.95 per month. You need to set up and activate each one as described above before proceeding. Next, you'll need a wireless network adapter for each of your TiVo Series2 DVRs, such as the Linksys Instant Wireless USB Network Adapter ($64.99; store.tivo.com). Plug the adapter into the USB port in the back of your TiVo Series2 DVR. You'll also need an existing wireless network set up in your home.

Here's an important step: You'll have to activate Multi-Room Viewing on your TiVo account before you can use your TiVos wirelessly. To set up your TiVo DRVs, log in to the Manage My Account section on www.tivo.com. Once you're logged in, click DVR Preferences on the left side of the screen and then scroll down to Multi-Room Viewing Permissions. Put a check mark in each TiVo for which you want to enable Multi-Room Viewing.

Now you're ready to try it out. Press the TiVo button on your remote control and select Now Playing On TiVo from the on-screen menu. Scroll down the list until you see the name of your other TiVo (for example, TiVo DVR: Den) and click it. Locate a program that you want to watch from that TiVo's program listing. Select the program and then click Watch On This TV at the bottom of the screen. The TiVo will automatically begin downloading the program from the Tivo unit in the other room.

You can begin watching the program almost immediately, but you'll run into hiccups as the TiVo runs out of video. It's a good idea to let it finish downloading first, or at least get most of the way there before you begin watching the show. Wired networks can transfer a program in several minutes, but wireless networks have a distinct disadvantage here; be prepared to wait upwards of an hour to transfer a single 30-minute show.

BY JAMIE LENDINO

CE Dejargonator: aspect ratio

Widescreen TVs give you the whole picture.

Here's what a widescreen image would look like on an old-style 4:3 screen.

Aspect ratio defines the shape of either a screen that displays video or a video signal. Screens, whether projected or in self-contained TVs, are expressed in a width-to-height ratio. The long-time standard shape for television screens is 4:3, or 4 inches of width for every 3 inches of height. Because movies (along with an increasing number of television programs and live events) are shot in a 16:9 widescreen format, the image must be manipulated in order to make it fit on a 4:3 screen. Either the entire image is shrunk into what's called a "letterbox" format, leaving black bars above and below the image, or the right and left edges of the image are chopped off.

Higher-end TVs are now available in the widescreen format. This wider format provides a larger viewing area, and because this is the way filmmaking cameras record the material, a widescreen image shows you the entire scene without chopping off part of the image left and right. You get to see what the filmmaker intended.

SD (standard definition) TV signals are still broadcast in 4:3, while the ever-growing HD segment (HDTV, or high-definition television) sports a 16:9 widescreen signal that fills the screen on today's widescreen TVs with a dramatically richer image.

Widescreen vs. Full-Screen

DVD content, and to a lesser-and-shrinking extent, VHS content, also falls into two main categories. Content in the old 4:3 format is called full-screen, while the theater screen-shaped content is called, predictably, widescreen. This can be confusing because, even when shown on a widescreen TV, many widescreen DVDs and videotapes still have black horizontal bars along the top and bottom of the screen.

This occurs because most movies are not produced in an exact 16:9 ratio. The two most common widescreen formats in today's movies are 1.85:1 and 2.35:1, neither of which perfectly fits a 16:9 widescreen-shaped television screen, but both of which provide a more theater-like experience as compared to full-screen.

Information On Formats

The movie's exact format is almost always listed somewhere on the back of today's DVD packages. However, you may have to read through a bit of fine print to find it. ce

BY JERRY HATCHETT

Advertisement

Delphi MyFi
MSRP $349.99
www.xmradio.com

Delphi MyFi

The Delphi MyFi™ is the first personal, portable handheld XM2GO satellite radio receiver. It includes a time-shifting memory mode and an integrated rechargeable battery so you can listen to XM Satellite Radio at home, in the car, or on the go.

MyFi gives users the personal freedom to enjoy XM Radio's Ultimate PlayList of more than 130 digital XM channels in two ways: a live listening mode and a time-shifting memory mode. The unit's live mode enables users to listen live to all of XM's 68 commercial-free music channels, plus premier news, sports, talk, traffic, and weather channels. MyFi's memory mode—called My XM—lets users store five hours or more of XM's outstanding content with the press of a button, even when the unit is not in use. MyFi makes it possible to enjoy XM Satellite Radio anywhere, anytime, effortlessly.

Components

- Handheld MyFi receiver (weight: 7.3 ounces)
- Rechargeable, integrated battery
- Complete home accessory kit
- Complete vehicle accessory kit
- First-ever built-in XM antenna
- Headphones
- Remote control
- Belt clip/stand
- Carrying case

Features

- Large, illuminated six-line LCD display
- Up to 30 channel presets
- Live XM listening mode
- My XM™ time-shifting memory mode (maximum of five hours)
- Stock ticker
- Sports score ticker
- Built-in wireless FM transmitter makes any FM radio an XM Radio
- Built-in alarm clock

SATELLITE RADIO

tips

Power Management For Your Home Entertainment System

1 Use only one outlet to power your entire system. Using different outlets for all of your A/V components can lead to ground loop hum, an annoying buzzing sound that comes through the speakers when the system is on. If you use only one outlet, all the plugs are connected to the same ground, which reduces or eliminates hum. Standard outlets have only two plugs, so you will likely need a power bar or power conditioner to provide electricity for all the components.

2 Turn on the amp or receiver last. Components such as CD or DVD players may make a loud pop or click when you turn them on or off. These noises can be amplified by the receiver/amplifier if it is on and may damage your speakers. To avoid this problem, turn on the amp last, and off first. Alternatively, you can mute or turn down the volume when turning other components on or off. Many power conditioners offer a delayed turn-on option for the amplifier, so you can power up the entire system using a single switch without noise.

3 Solid-state components like to be left on. For **solid-state** equipment (components that uses transistors rather than vacuum tubes), the thermal and electromagnetic stresses of an on/off cycle are worse than simply leaving the amp on all the time. As a bonus, your components are always warmed up and sounding their best. There are three downsides: power consumption, which is usually minimal; early burnout of displays lit by incandescent bulbs, which is rare because most components use long-lived LEDs; and greater susceptibility to power surges. Don't leave TV/video displays, video projectors, or vacuum-tube amplifiers on, however. These have a limited lifespan and should be turned off when not in use.

4 Consider using a power conditioner. You may not know it, but the power lines in your house carry electrical "noise" generated by appliances or other equipment connected to the system. This noise can degrade the sound and video quality of your home entertainment components. Depending on the model, a power conditioner can filter out this noise. It can also protect your equipment from power surges and temporarily store power to provide extra juice for loud sound effects. Power conditioners also have multiple outlets that you can connect all your components to. A sophisticated power conditioner can markedly improve your components' sound and video quality.

5 Consider after-market power cords. Provided your equipment has detachable power cords (the cord plugs into an IEC/computer-type socket on the back), an after-market cord designed for music such as those from Transparent or MIT can improve your equipment's sound quality to an astounding degree. The best cords can be extremely expensive but may still be worth it for the improvements you get. Power cords can also improve the quality of the video from your video equipment. Borrow a cord and let your eyes and ears be your guides.

BY ROSS MANTLE

Advertisement

Sharp AQUOS™ LC-20B6U-S
MSRP $1,199.99
www.sharpusa.com

Sharp AQUOS™ LC-20B6U-S

The elegant AQUOS™ LC-20B6U-S is less than 3 inches deep and features HDTV compatibility and PC compatibility. And with Sharp's proprietary XGA Advanced Super View LCD panel, it delivers superior picture quality. In addition to a 500:1 contrast ratio and 170°/170° viewing angles, it is truly "TV where you want it" for any room in the house.

20" ASV (Advanced Super View) LCD Panel

A Sharp proprietary panel with black TFT low-reflection coating.

HDTV Monitor

The LC-20B6U-S can receive and display HDTV signals.

High Brightness (430 cd/m^2)

AQUOS™ Liquid Crystal Televisions are very bright, so you can put them anywhere—even near windows, doors, or other light sources—and still enjoy a vivid picture.

PC Input

You can use the LC-20B6U-S as a PC monitor.

170°/170° Viewing Angles

So wide that you can view AQUOS™ Liquid Crystal Televisions from almost anywhere in the room.

60,000-Hour Lamp Life

Sharp's LCD backlight life is long enough to give you viewing pleasure for many years.

500:1 Contrast Ratio

Provides incredible images whether you're watching dark or bright scenes.

SHARP®

A Snapshot

The Digital Camera Takeover Is In Full Force

by Brian Hodge

Flashback, 1995: You're with a group of friends at that chain of coffee shops that's really starting to catch on—Starbucks, yeah, that's the one. You're shooting the breeze about photography when, on an otherwise empty stomach, a double mocha rush gives you a glimpse into the future.

"In 10 years," you blurt, like a caffeinated Nostradamus, "Kodak will be still be going strong . . . but it'll no longer be selling film cameras on the North American continent."

The table goes quiet. Everyone stares at you. Then, they burst into laughter. Come on, this is Kodak you're talking about—only the world's biggest name in film photography for the past century!

Yet, here we are a decade later and, although your friends will probably deny all memory of the event, you're entitled to call them up and gloat. Your prediction has come to pass, more or less.

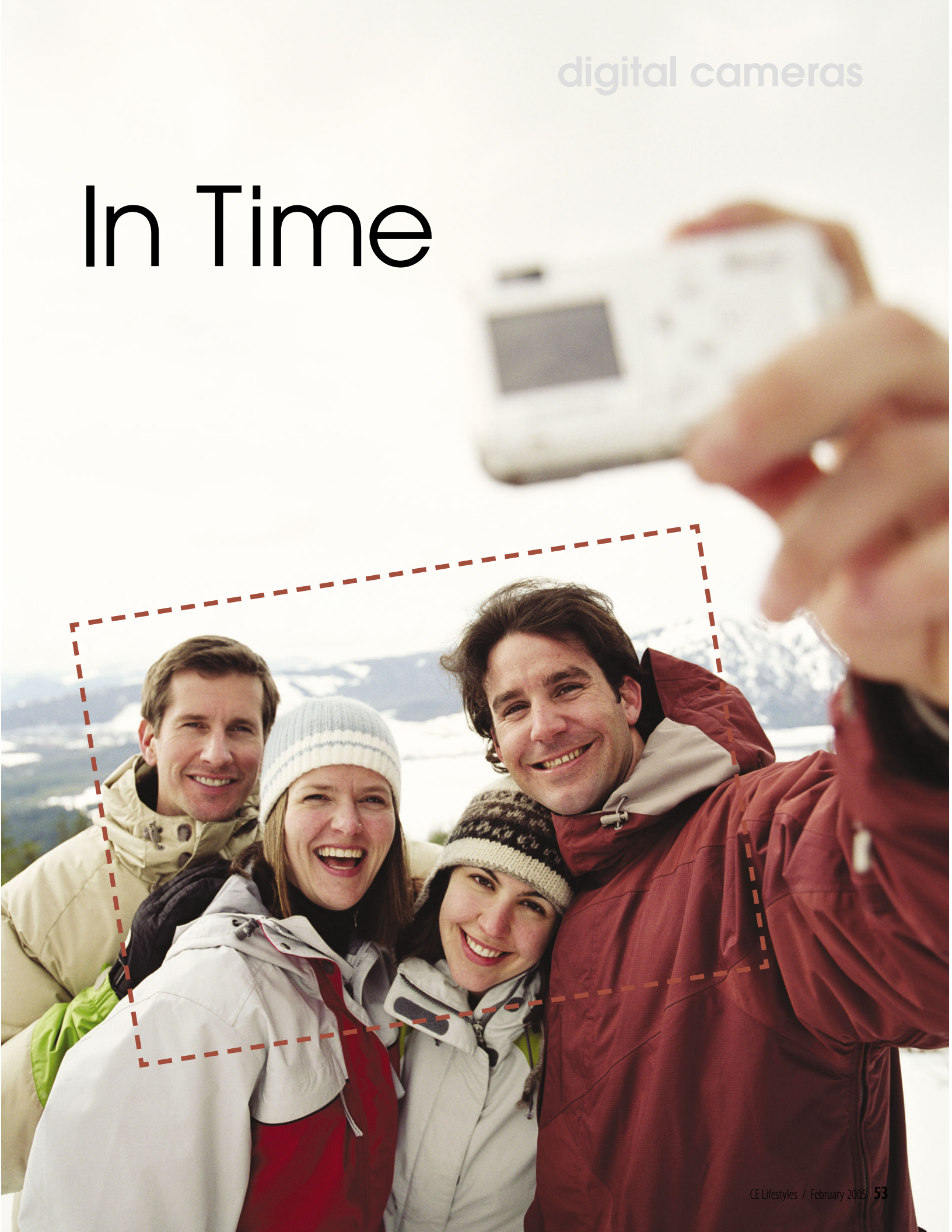
Sign Of The Times

In early 2004, facing the galloping success of digital cameras, Eastman Kodak conceded the inevitable and announced a major shake-up in its marketing strategies. The company would no longer sell reloadable 35mm and APS (Advanced Photo System) film cameras in the United States, Canada, or Western Europe. Henceforth, Kodak's camera would, with one exception, consist of an all-digital lineup. The rationale was simple: The film market wasn't sufficient any more. The only survivor was Kodak's single-use disposable cameras, which are fine if you're caught without a camera and need some quick wide-angle snapshots, but they're not so good if you want to exercise any creative control.

Kodak's decision of early 2004 may have signified a seismic shift in western markets, but it hardly meant a global death knell for film. The company shifted its film-camera focus to emerging markets, most notably India, China, Eastern Europe, and Latin America, where film hardware and services still enjoy double-digit growth rates.

Nevertheless, Kodak's announcement was a clear reflection of the times. On our shores, at least, these are not good days for those who base their livelihoods on catering exclusively to the photographic film market. As we've seen in so many other areas, the boom times are with digital technology.

In Time



Digital Delights

You don't have to look far before the appeal of digital cameras becomes obvious:

- By shooting to a memory card, you can eliminate the ongoing expense of film, with the freedom to shoot and experiment as much as you want without worrying about waste.
- Because you don't have to wait for developing, you can immediately review what you've done and decide if you have a keeper or if you're better off trying again.
- With suitable software, you can draft your computer into service as a darkroom—editing, manipulating, and printing photos on your own.
- Digital photos can be more flexible and economical when it comes to sharing them with friends and family. Sure, you can still get prints made the traditional way, but you can also leave copies behind on someone else's computer, email them, and post them to your Web site or at online photo-sharing services, such as Snapfish (www.snapfish.com) and Ofoto (www.ofoto.com). Also, archiving digital photos is more space efficient; a single CD-R, for instance, can hold a quantity of photos that might require multiple albums or shoeboxes. As a bonus, you can play photo CDs like a TV slideshow on many DVD players.

A few years ago, early adopters of consumer-level digital cameras had a couple of legitimate complaints about the ways in which film was still superior. First was quality. When the best resolution for digicams was still down around 2MPs (megapixels), they just couldn't compete with the crisp detail of film, especially at larger print sizes, such as 8 x 10 inches.

The second complaint was shutter lag, a noticeable delay, sometimes as long as a second, between the moment you press the shutter release and the moment the camera actually takes the photo. This is a result of the camera preparing its circuitry for the next shot and can be particularly ruinous for action photography.

By now, though, improvements in camera technology have largely alleviated these limitations, as advances that first showed up in high-end professional gear have trickled down to models that most hobbyists can afford.

For general use, most users feel that digital starts to rival film quality at resolutions between 5 and 6MP. And with some recent (although professionally priced) cameras featuring resolutions up to 14MPs, poster-sized blow-ups look as sharp as film. As for shutter lag, it still exists, but even in many budget-friendly cameras, it's often down to a few milliseconds and hardly noticeable.

At *CE Lifestyles*, a lot of new cameras cross our desks, and if any one trend stands out in what we see, it's the way in which cameras in virtually all price ranges deliver a balance of no-fuss automation and at least some degree of manual creative control. If you want to shoot quickly and let the camera sort out exposure settings, or optimize it for portraits, landscapes, etc., you can. And if you want to determine these settings yourself, you can do that too. You're increasingly likely to find this flexibility in both compacts small enough to slip into your shirt pocket and digital SLR (single lens reflex) models that look and behave like 35mm film cameras.

A Look Ahead

The more digital cameras improve in quality and function, the more the buying public seems to notice.

According to calculations by InfoTrends, a market research group specializing in digital-imaging technologies, by the end of 2004, 40% of U.S. households owned at least one digital camera. That's up a healthy 10% from its forecast for 2003.

So, how many unit sales does that translate to? Figures vary, depending on who's doing the tallying. As we go to press, InfoTrends' best guess for 2004 is 22.8 million cameras, a 42% increase over 2003. The figures from the Consumer Electronics Association are more conservative, forecasting 18.07 million camera sales, for 22% growth over 2003. By either estimate, though, that's a growth rate that should inspire cartwheels within the industry.

Whatever the actual growth rate, two main factors are contributing to it. First is the increasing number of first-time buyers—those who have been lured over from film, as well as those who didn't have much interest in photography before but find that the convenience of digital has sparked their interest. Second is the millions of early adopters who are replacing or supplementing their older cameras with newer, better models.

Advertisement

Samsung HL-P5085W
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www.samsungusa.com

Samsung HL-P5085W

50" Widescreen HDTV Monitor TV With DLP™ Technology

Samsung introduces a new DLP™ TV that is guaranteed to catch your eye whether it's on or off. The new HL-P5085W combines award-winning style with award-winning, high-definition performance. Experiencing the 50 inches of inviting wide-screen viewing is the only distraction that will draw you from its unique floor standing pedestal styling.

Features

- DLP™ TV (Digital Light Processing)
  - Unique Pedestal Light-Weight Design—Fits Where Others Won't™
  - Net dimensions: 53.6"(W) x 54.7"(H) x 20.5"(D), Weight: 125.4 lbs.
- Samsung Cinema Smooth™ Gen 4 HD fourth generation light engine
  - Single-panel digital micro-mirror device (DMD) design for a crystal clear picture without any possibility of convergence errors
  - High-output 0.8-inch DLP™ technology by Texas Instruments
  - Smooth, film-like images
  - 2500:1 contrast ratio with outstanding color and deep black levels
  - Enhanced low light scene detail performance
  - 30% quieter operation (48dB)
- Samsung's latest generation DNIe™ video enhancer
- Samsung Cinema Smooth™ Film-Mode 3:2 pulldown powered by Genesis™
- 1,280 x 720 digital format converter for all inputs
- HDTV performance with add-on HD receiver
- New HDMI and DVI inputs for true digital performance
- No screen aging or burn-in effects for worry-free enjoyment
- Audio: 30-watt stereo audio system with SRS TruSurround XT™

"Digital camera users have a lot of incentive to upgrade to the latest crop of digital cameras because many models introduced this year address several user complaints such as slow image processing and poor battery life," says Michelle Slaughter, InfoTrends' Director of Digital Photography Trends. "Additionally, manufacturers are gaining more traction in the U.S. market with premium features, including larger color LCDs (2 inches and larger), ultra-compact and stylish designs, extended zoom models (over 3X optical), and digital SLRs."

InfoTrends foresees another two years of strong growth before digital camera sales hit their peak.

What you probably shouldn't look for in that time, however, are prices that continue to drop dramatically. True, over the past few years, digicam pricing and value have followed a similar arc to those of PCs; they've become steadily more affordable even as their quality and functions have improved. In October 2003, Canon's Digital Rebel made a huge splash as the first digital SLR whose street price broke the $1,000 mark (usually for $999, with lens). However, as of this writing a little over a year later, an equivalent camera has yet to emerge that undercuts the Digital Rebel's position. Even the nearest direct competitor, the Nikon D70—in most respects a superior camera—retails for around $300 more (usually for $1,299, with lens).

If you look at our "Average Prices For Digital Cameras" chart, you can see that the average unit price fell by $9 between 2003 and 2004, but is expected to drop only by a mere $1 for 2005.

Why the apparent bottoming-out? InfoTrends' research concludes that it's due to the increasing demand for high-quality point-and-shoot cameras and lower-priced digital SLRs. In this sector of the market, at least, InfoTrends expects to see an increase in the average price.

For the buying public, this may be a signal to go ahead and buy now. If you've been holding off buying a digicam, hoping for further price cuts, that strategy's effectiveness may have reached its potential.

Total Sales Figures & Projected Figures

Notice the recent and projected U.S. sales for digital cameras, in units, continue to project increases each year.

2003: 14.786 million
2004: 18.072 million
2005: 20.395 million

Sales Figures & Projections Of Digital Cameras

Here you can see the recent and projected U.S. sales for digital cameras, in dollars, for the years 2003, 2004, and 2005.

2003: $3.9 billion
2004: $4.7 billion
2005: $5.1 billion

Average Prices Of Digital Cameras

Here are the recent and projected average digital camera prices, in dollars for 2003, 2004, and 2005.

2003: $265
2004: $256
2005: $255

Figures courtesy of the CEA (Consumer Electronics Association).

A Longer Look Ahead

In quality, features, and acceptance, digital cameras have made long strides in a short time. But when you talk with analysts whose business is to look to the future (using more than just a double mocha rush), it's hard not to get the impression that we've still only scratched the surface of possibilities.

Slaughter says InfoTrends expects sales of digital cameras to reach or exceed current sales of film cameras within the next five to 10 years. Currently, 75% of U.S. households have a film camera, and InfoTrends expects more than 40% will have digital cameras by year-end [2004].

And what currently unseen features might be standard on cameras of the future?

"Feature trends that will continue to drive digital camera sales in the future include advancements in video capture (DVD and HD quality), wireless connectivity (Wi-Fi), faster image capture and processing speeds, larger and higher quality LCDs, and more," Slaughter says. "The digital camera that you will buy in five years will offer superior performance and connectivity solutions compared to what is available today. For example, when you walk into your wireless networked home or office, your digital camera will automatically transfer your still images and video files, display them on a selected device, such as the HD flat panel TV in your living room, initiate an image archival solution (back up and protect your images), and notify your selected group of friends and family to view your latest photos."

Prepare To Focus

Over the next several pages, we'll be getting hands-on with a crop of recent digital cameras, plus taking a more in-depth look of what the future should hold for digicam technology.

And if you're new to photography, welcome: You've arrived at the most pivotal time since film replaced glass plates.

Advertisement

Sharp SD-PX2
MSRP $599.99
www.sharpusa.com

Sharp SD-PX2

Packed with features, the SD-PX2 introduces the latest in 1-Bit™ Flat Panel Digital Home Theater technology. With built-in 1-Bit™ digital amplifiers that incorporate a new sampling speed of 5.6MHz (128 times faster than conventional CD technology), built-in DVD/CD player, Dolby® Digital, DTS™ Surround Sound, and a digital AM/FM tuner, the SD-PX2 combines five amplifiers and a multiformat player in one sleek, compact chassis. Compatible with the latest high-performance loudspeakers, the PX2 can be placed on a stand or wall-mounted with the included VESA-compatible wall bracket. It's a perfect home theater system to hang on the wall and match your cool AQUOS™ television.

New Ultra-High-Speed Sampling 1-Bit™ Digital Amplifiers

5.6MHz high-speed sampling allows for accurate sound reproduction, creating a pure digital path from the original source to the listener.

35W x 5 Channel Output

Compact home theater system gives you all the power you need for the ultimate home theater experience.

Unique Flat Panel Design

Allows flexible placement in an A/V rack or mounted to a wall using the included wall-mounting bracket.

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Sony Cyber-shot DSC-P150: how-tos

Sony Cyber-shot DSC-P150
$499.95
www.sonystyle.com

Setting up the DSC-P150 takes a little time, but very little effort. Before using the camera, install the battery and charge it. To install, open the Memory Stick cover on the left end (facing the camera) of the unit and slide the battery into the slot. Close the cover, open the smaller DC IN door, and plug the AC Adaptor to the DC IN jack and to a wall outlet. The battery should charge in three to four hours.

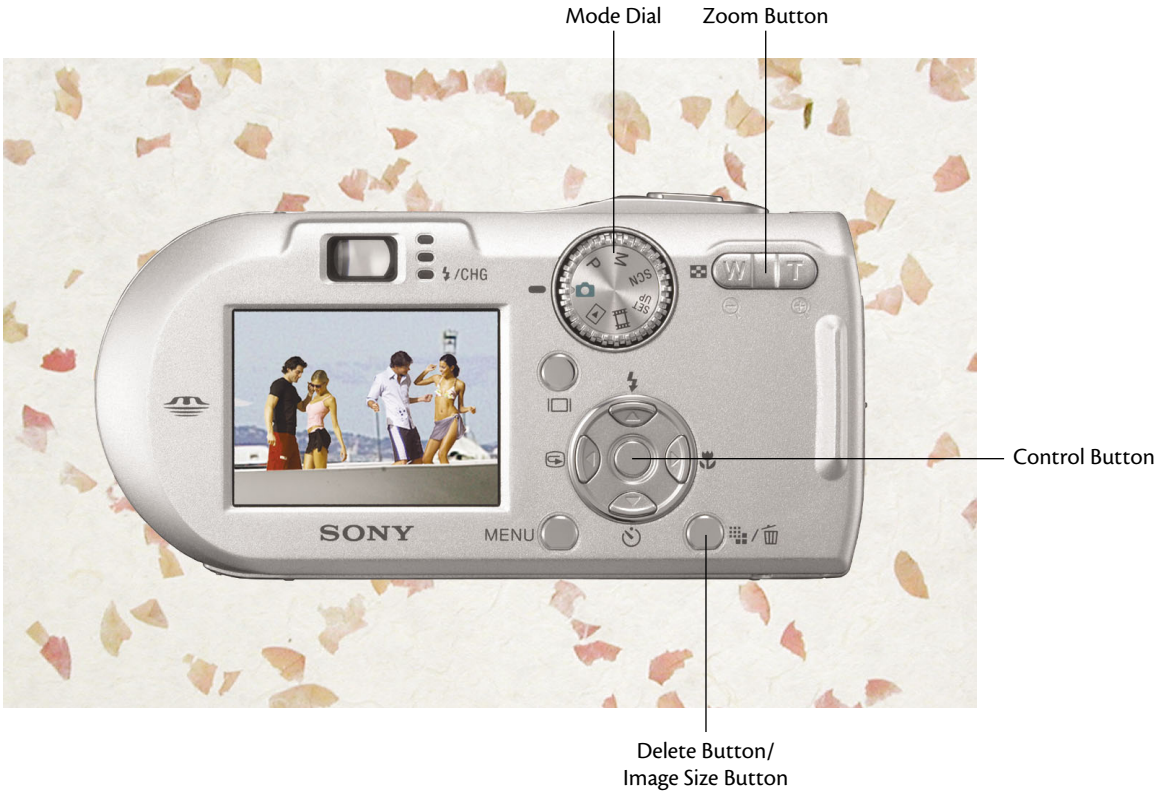
Now, install the 32MB memory stick included in the package. After the battery is charged, unplug the AC adapter from the camera, open the Memory Stick cover again, and slide the memory stick into the smaller slot. Close the cover and press the power button on the top of the camera. You can take pictures immediately by rotating the Mode dial to the camera icon outlined in green. You can also take a short video by rotating the Mode dial to the video icon. Alternatively, choose Setup on the Mode dial and use the Control button to move the highlight up, down, left, and right to set the date, time, and all other features.

This new digital camera is small, not as small as the box photo, but close, at 2 inches high x 4 inches wide x 1 inch deep, and weighing just over 6.5 ounces. The Cyber-shot DSC-P150 gives you a whopping 7.2MP (megapixel) resolution.

It also has a Carl Zeiss 3X Zoom lens. Zeiss lenses are well regarded in the photography biz, so this alone should make you sit up and take notice. Combine this lens with the rest of the camera, and you have a unit that will take pictures at resolutions ranging from suitable for detailed printing right down to those small enough to send via email. You have considerable control over all aspects of your photography, with the camera allowing you to adjust aperture settings to account for different lighting situations and subject movement, and flash settings to account for difficulties with sources of light.

The DSC-P150 also takes short videos. You won't get more than 10 minutes of video or so even on a good sized Memory Stick (the camera holds Memory Sticks up to 1GB), but what you do get is clear and precise.

The Cyber-shot has two Burst modes: First, plain Burst mode keeps taking pictures as you hold down the shutter release, at intervals specific to the picture quality you've selected. For example, you can take five consecutive pictures of the highest quality in this way or as many as 85 VGA (Video Graphics Array)-quality pictures. Move the camera to a different subject between pictures and you don't



need to reset the shot. Second, Multi Burst mode takes a continuous 16 frames or more when you press the release. (For more information, see the "Multi Burst Mode" section).

For more advanced photography needs, the DSC-P150 offers numerous options all available from the Setup menus. You can display a **histogram**, which is a graph displaying the image brightness, as you shoot or as you view existing pictures, using it to help you configure the camera for even better shots. You can use the metering feature to examine the exposure before shooting a picture, either by focusing on a specific portion of the image (spot metering) or by examining a larger number of regions (multi-pattern metering). You can also change the AF (autofocus) mode from Single to Monitoring, the latter cutting the time needed to refocus, allowing you to shoot moving subjects.

Multi Burst Mode

The DSC-P150 offers a handy and easy-to-use feature that lets you capture action in tiny increments, letting you analyze it in detail later. Multi Burst mode captures 16 frames in less than one second, after which you can turn the Mode dial to View and watch as the camera steps you through all 16. The result is a kind of staccato video that shows you every small stage of the action.

To shoot in Multi Burst mode, turn the Mode dial to any of the four shooting modes, including five of the nine Scene modes. Press the Menu button and, using the large Control button, move to the REC Mode menu, scroll to the top, and choose Multi Burst. Press the Menu button again to conclude your selection.

Looking through the viewfinder or at the LCD screen, position the camera for your shot. When you're ready, tell your subjects to begin the action you want to record. As soon as they do—or as soon as they reach the point in the movement you want captured—press the shutter release. You'll hear a whirring sound, after which the word "Recording" appears on-screen. As soon as this indicator disappears, you can take another Multi Burst Picture.

Now for the fun part. Turn the Mode dial to View. On the LCD screen, you see each of the segments of the burst cycled through slowly.

The number of images possible in a Multi Burst action increases as you add memory to the camera. As shipped, you can take 16. Upgrading to 16MB increases the burst to 24 images. With the largest possible Memory Stick installed, 1GB, your bursts can contain nearly 1,500 images.

BY NEIL RANDALL

Advertisement

Samsung LT-P468W LCD TV
MSRP $8,999
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Samsung LT-P468W LCD TV

46-Inch-Wide 1,920 x 1,080p-Capable HDTV Monitor With Multimedia Inputs

Samsung introduces the LT-P468W 46-inch LCD TV to the market. A large LCD TV no doubt, but with an emphasis on performance; images are crisp and clear from corner to corner. The new set is the first consumer flat panel TV on the market to boast a 1,920 x 1,080p native resolution, the highest of the ATSC standards. The LT-P468W has an impressive 800:1 contrast ratio and a brightness rating of 500 cd/m^2.

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Canon PowerShot G6: how-tos

Canon PowerShot G6
$699.99
www.canonusa.com

Canon's new 7.1MP (megapixel) PowerShot G6 is one complicated beast, but if you know the basics, setting it up for typical use is a snap.

Basic Setup

Switch the dial near the viewfinder to the green Auto setting, which is the mode you'll most often use, and turn on the camera. Select the picture size you want to take by pressing the Function button and selecting one of the compressed JPEG (Joint Photographic Experts Group) modes. If you have a high-capacity memory card, use the L (3,072 x 2,304 pixel) setting, so you can take 8.5- x 11-inch prints and easily crop them in an image editor.

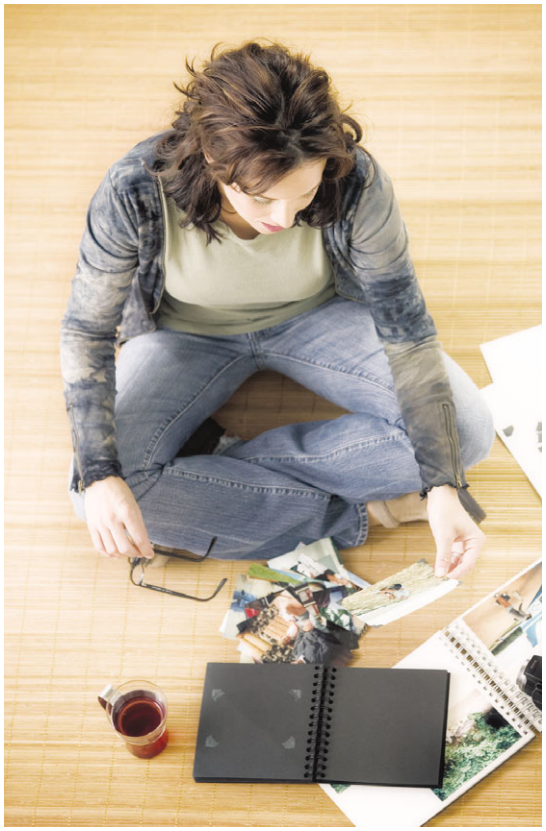
You can, of course, snap pictures at lower resolutions. M3 (1,600 x 1,200 pixels) is a good compromise that produces clear 4- x 6-inch prints, and the images take up less storage space than L pictures. Use the S (640 x 480 pixels) setting for pictures you want to share via email or post to a Web site but not pictures that you plan to print.

Press the Function button to access a menu to select a compression level for photos, ranging from Superfine (little compression) to Normal (aggressive compression). **Compression** condenses photographic data so it takes up less space. Use Superfine regardless of the resolution for the best possible picture quality. You need to select the default picture size and compression level for each mode the camera supports.

Press the Menu button to access the Rec Menu and turn on Red-eye, which reduces red-eye; however, the best way to avoid this problem is to have your subjects look somewhere other than the flash when taking pictures. Self-Timer is self-explanatory, and Wireless Delay does the same thing, but the timer kicks in when you use the wireless remote.

AF Mode is for autofocus, Continuous lets you quickly take pictures because the camera is always focusing, but Single conserves batteries. The AF Assist Beam gives the autofocus system a target to aim at; leave it on for best results.

We recommend using Optical Zoom and turning off Digital Zoom, which artificially blows up images and adds artifacts that hurt image quality. The Review setting determines how long images remain on the LCD after you take a picture; turn it off to conserve batteries. Reverse Display lets the LCD display a mirror image when you rotate it to face the same direction as the camera's lens. This makes it easier to line up shots, and the final picture comes out normally and not as a mirror image.



You can access the Set Up and My Camera menus by highlighting the Rec Menu and pressing the cursor pad right or left, and these are sound and personal settings that are easy to understand. Format in the Set Up menu is an exception: It erases every image on an installed memory card.

Advanced Setup

To get the most out of this camera, switch from Auto to a more advanced mode. P, short for Program AE, is the best choice for getting your feet wet, as it automatically controls the shutter speed and aperture size but opens additional features that are not available in Auto mode. Move the dial to P, and we'll walk you though a few of these options.

The ability to manually focus is handy, so press the MF button next to the viewfinder to bring up a zoom window within the LCD. Rotate the dial behind the zoom dial to focus on objects until they display clearly in the LCD's zoom window, and take your shot.

Moving the autofocus window is another neat trick you can do in Program AE mode. Press the Set button to highlight the focus box and use the cursor pad to move it around the screen. The camera focuses on the object inside the box, making this a great way to get clear shots of off-center subjects without using focus lock.

If you want to get close to your subject, Program AE supports a Super Macro mode that works much better than basic macro. Hold down the macro button next to the viewfinder (the icon is shaped like a flower) until you see a flower with an S in the middle superimposed on the LCD. Take the close-up as you normally would, but be aware that this mode allows for a maximum resolution of 2,048 x 1,536 pixels, which is smaller than the maximum 3,072 x 2,304 pixel resolution available with standard macro shots.

In Auto mode, the camera's white balance is set automatically, but you can adjust it manually in Program AE mode. Press down on the cursor pad to access the settings and use the cursor to select a mode that matches the current lighting conditions (cloudy, daylight, fluorescent, etc.).

Finally, although it only uses the Auto settings, the camera's Stitch mode is fun and surprisingly easy to use. Rotate the mode dial to select it and a split-screen appears on the LCD. Hold the camera as steady as possible, overlapping several shots in a row to capture a wide panorama. Then, use the PhotoStitch software that came with the camera to seamlessly combine the images into a large, wide (or tall) shot. ce

BY TRACY BAKER

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Sharp XV-Z12000
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Sharp's XV-Z12000 SharpVision DLP projector creates a cinematic experience that transforms any family or media room into the ultimate high-tech home theater. Using the Mustang/HD2+ DLP technology from Texas Instruments and Sharp's proprietary CV-IC (Computer & Video Integrated Composer) System II technology, the XV-Z12000 is a 16:9 high-definition projector that boasts an unprecedented 5,500:1 contrast ratio (in high-contrast mode) and 900 ANSI Lumen brightness (in high-brightness mode).

The XV-Z12000 has a native resolution of 1,280 x 720 pixels for a true 16:9 widescreen picture and a DVI-IHDCP (High Bandwidth Digital Content Protection) terminal. The true 720p high-resolution images are fully compatible with all HDTV signals, making this the perfect movie-viewing vehicle for today and well into the future.

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Nikon Coolpix 8800: how-tos

Nikon Coolpix 8800
$999.95
www.nikonusa.com

The 8MP (megapixel) 8800 is the latest model in Nikon's popular Coolpix line. With a prominent grip and a large lens barrel that dominates the left side, it really gives you something solid to grab onto.

For the best setup advice, you need look no further than the separate Quick Start Guide that comes with the camera. Nikon typically provides a poster-sized foldout that walks you step-by-illustrated-step through the usual tasks: Take an inventory of the camera and all accessories, charge and insert the lithium-ion battery, attach the neck strap and lens cover tether, and insert and format the memory card (Compact Flash format, not included).

For anything that requires visual feedback—composing shots, navigating menus, image playback—you can use the 8800's electronic viewfinder or its flip-out display, which you can pivot into almost any position. Flip the panel open when you turn on the camera because you'll need to set the Language and Date/Time with the back panel's Multi-Selector (four-way arrow key and center button).

You'll control a number of features using the Mode Dial atop the camera body. Here you'll find the standard Auto mode (green icon) to get you started with point-and-shoot simplicity. Frame your shot and, if needed, press the W/T (wide-angle/telephoto) switch (it naturally lies under your right thumb) to zoom between wide angle and telephoto views. Then press the shutter button halfway to activate the autofocus, wait for the green focus indicator, and press the shutter button the rest of the way.

The Mode Dial also provides direct access to menu options for setting the **White Balance** (promotes color accuracy by compensating for different lighting sources), **ISO** (light sensitivity), Image Size and Quality, and general camera setup.

For shooting, the dial lets you switch between the four creative control modes: Manual (press the Function button to toggle between Aperture and Shutter settings and adjust each with the Command Dial, located below the Mode Dial), Aperture Priority and Shutter Priority (in which you can manually set the lens aperture size or the shutter speed, and the camera will automate the other setting to maintain a proper exposure), and Programmed (similar to Auto).

Pay special attention, however, to the dial's Scene setting. Most cameras have a handful of presets, such as Landscape, Portrait, and Sports, for optimizing performance in specific situations. The 8800 is more comprehensive, with 15 specialized presets. To access them, set

Both sides spliced together.

the Mode Dial to Scene and press the Menu button. Navigate through the icon panel with the Multi-Selector and press its center button to activate the Scene you want to use.

Create A Panorama

Whether in a book or at a photographic exhibit, you may have seen a landscape so expansive that it made widescreen TV look cramped. How did the photographer do that? The artist probably combined multiple photographs into a single epic image called a panorama. Shooting photos that will join together takes care and planning, but the Coolpix 8800 makes it easier than most cameras.

Prepare the camera. Use the Mode Dial to access the Scene Menu and choose Panorama Assist (bottom row, middle icon). The display will show a small green arrow pointing right. This indicates your pan direction: You'll be shooting left-to-right. This is the default direction, but you can use the Multi-Selector arrows to choose right-to-left, top-to-bottom, or bottom-to-top.

Before you begin shooting, make sure you're happy with your settings for the white balance and, if needed, exposure compensation. You won't be able to change these once you begin; after the first shot, the 8800 temporarily locks them to maintain image consistency while shooting your photo sequence.

Compose and shoot. Assuming you're sticking with the default pan direction, compose the shot you want for the left end. If you need help with framing, try the Display button at the bottom of the back panel. Regardless of the shooting mode, this toggles through three display views: the default clutter of camera information; a clean screen; and, for composition, a yellow grid you can use to align features horizontally and vertically.

Now shoot the first photo in your series. A moment later you'll see a ghostly copy of the right third of the shot superimposed over the left third of the display. This makes it easy to pan right and frame the next shot by lining up the overlapping features of the landscape. Even if you're holding the camera instead of using a tripod (which photographers often use in panorama work so each shot is level), the translucent image will help you keep everything aligned.

Complete the series. When you've finished shooting, press the Multi-Selector's center button, which instructs the camera to end the sequence. The Coolpix 8800 stores these photos in its own folder. Of course, the camera doesn't join them for you, but many photo editors, such as Adobe Photoshop and Roxio PhotoSuite, have tools that will make quick work of this.

BY BRIAN HODGE

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The DVD-HD941 has a host of advanced features such as DVI and HDMI outputs for uncompressed digital video and Faroudja's DCDi™ video de-interlacing technology for even better video performance. It offers increased audio capabilities, as well, including SACD (Super Audio CD) and DVD-Audio—making it not only the best-performing player, but also the most complete.

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Konica Minolta DiMAGE G600: how-tos

Konica Minolta DiMAGE G600
$499
kmpi.konicaminolta.us

Before you start to take pictures with your Konica Minolta DiMAGE G600, you have to charge the battery. Unwrap the rechargeable cell and slide it into the included charger. An indicator light will glow red and turn green once the battery's charged. Open the latched door on the bottom of the camera to expose the battery chamber. Slide the battery into the largest slot and use one of the two smaller slots immediately below it to insert an SD (Secure Digital) memory card or a Memory Stick; the camera can use either memory format to store its digital pictures. If you use the included SD card, beware that it will only store 16MB of pictures, which can be as few as a dozen at high resolution.

After latching the battery door shut, turn on the camera by sliding its lens cover to the left. The lens will extend automatically, and the camera's screen will prompt you to answer a few setup questions. Set the language, date, and time using the 4-Way Navigation keys and Menu button at the bottom of the screen. The G600 has two main modes, Record and Playback, and you switch between them by pressing the Playback button on the top left of the screen. You'll take your prize-winning shots in Record mode and then review them on the screen in Playback mode. To take a photo, put the camera in Record, frame your shot using the zoom buttons to magnify the scene up to three times, and press the shutter button down halfway to lock the focus and exposure settings. Now, press the button down the rest of the way to take the shot.

If you want the instant replay to make sure your picture is a winner, press Playback and use the navigation keys to scroll through your shots, pressing the Delete key to dispose of any photos that don't measure up. When the camera's memory fills up, use the included USB cable to connect the camera to your computer. The camera usually shows up automatically on your Windows Desktop like any USB portable hard drive; if not, you may need to restart your computer. You can browse through your camera's shots in Windows Explorer and edit them in whatever program you'd like, or you can use the included DiMAGE Viewer software to manage the stored pictures and make touch-ups.

Getting Exposure

The G600 is great for taking quick snapshots, but it really shines in the ease of use of its several exposure and focusing options. Whenever an automatic camera takes a picture, it balances the

shutter speed, exposure time, aperture size, and flash to get the correct amount of light onto the film or digital sensor. This seems like a difficult enough task, but it's really only half of the problem because different kinds of pictures need to be optimized differently. For example, if you're taking an action shot of a basketball player as she's shooting, it might require a fast shutter speed to freeze the action and avoid motion blurring. Because the background of the shot is unimportant, it's OK to open the camera's iris wider to let in more light, even though it may cause the background to become blurred. On the other hand, you can shoot a still-life photograph with a slow shutter speed because the objects won't move and blur the image. However, a small aperture is needed to ensure that the objects closest to and farthest from the camera are both in focus. The G600 makes all these decisions for you, provided you put it into the correct mode to tell it what kind of picture you're taking.

The easiest place to start is with the five flash modes. Press the right navigation key to cycle through the Autoflash, Red-Eye Reduction, Fill Flash, Night Portrait, and Flash Off options, which are displayed as icons on the screen. Autoflash provides standard low-light flash functionality; the others are more specialized. Red-Eye Reduction flash prevents the unsettling red pupils you often see in flash portraits, and Fill Flash reduces shadows in harsh light. Night Portrait flash is a neat mode that lets you light the foreground with the flash but hold the shutter open long enough to capture the detail of a dark background. The camera automatically adjusts the light levels for you.

Next, choose one of five focus modes. Press the left navigation key to cycle through Macro, Landscape, Self-timer, Macro/timer, and Landscape/timer. Macro and Landscape are designed for close-up and far-away pictures, respectively. The timer modes let you combine the focus and exposure features of these settings with a 10-second countdown so you have time to get into the shot yourself.

If you're really a photo pro, you can set the Exposure Metering mode to help you lock onto the right light levels. In Record mode, press the Menu key to open the camera settings and scroll down to AE, short for autoexposure. Here you can change the metering from Center, which monitors the light in the whole frame but gives priority to the middle area, to Spot, which tells the camera to look only at the light in a small region in the middle of the frame to make exposure decisions.

BY JOSEPH S. BELL

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HP Photosmart 945:
how-tos

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Setup procedures for HP's 5.3MP (megapixel) Photosmart 945 are simple: You'll be up and running in less than five minutes. First, attach the neck strap and lens cap tether to the side mounting brackets.

Next, insert four AA batteries into the compartment on the bottom. The Photosmart 945 includes a quartet of Li-Ion (lithium-ion) batteries; these will last longer than standard alkalines, which typically cost between $2 and $3 for four batteries and may die before you've even completed a long photo session. If you take many pictures, it will be more cost-effective to invest in a rechargeable solution, such as HP's optional 8881 Digital Camera Dock ($79.99), which includes four rechargeable NiMH (nickel metal hydride) batteries.

Finally, insert a Secure Digital memory card (contacts facing front) into the compartment on the right rear. The camera comes with a 32MB card, which will hold dozens of photos at lower resolution and quality settings. At the highest resolution and quality settings, the most detailed photo we shot was a 4.7MB JPEG (Joint Photographic Experts Group), which means you can store roughly seven images. You may want to buy a larger-capacity card if you want to take a lot of high-quality pictures.

Now you're ready to turn the power on. The Photosmart 945's power switch is a spring-loaded slider near the bottom-rear panel. The first time you power up, the camera's screen prompts you to confirm that you want its menus in English and to set Time and Date using the four arrow keys and OK button.

For setting up shots, you may use the back-panel display screen or the default viewfinder. Each shows you what the lens sees, but the latter isn't a true optical viewfinder, which uses mirrors to reflect the lens' view to your eye. Rather, it's a tiny screen that activates when a sensor detects the presence of your eye. To toggle between displays, press the back panel's Live View button. As you pan the camera, the changing image isn't smooth, but a jittery-looking series of frames, which may take some getting used to.

The dial atop the camera body has six exposure modes: Automatic, Portrait, Landscape, and Action modes, plus Aperture Priority (Av) and Shutter Priority (Tv) modes, in which you'll adjust the prioritized setting with the left/right arrow keys while the camera automates the other.

When you turn on the camera, it defaults to wide-angle view, which shows a broad, expansive scene. To decrease the viewing area and focus on a detail in the

The Photosmart 945's Digital Flash can peer into shadowy niches without lightening the rest of the image.

scene, zoom in by using your thumb to press the rocker switch. The 945 provides 8X telephoto optical magnification and switches to a digital zoom.

To shoot, train the display brackets on your subject. Press the shutter button halfway to engage autofocus. The brackets turn green to signify that you've achieved focus, and you can finish snapping the picture.

A Closer Look

Once you get familiar with the Photosmart 945's buttons and menu options, you'll discover many features.

One example is focus. On the back panel, you'll see a button with a flower icon and the letters MF. This button steps through four focus modes: the default Normal (for general shooting), Macro (for close work under 31.5 inches), Infinity (for long shots), and Manual. Use the first three modes with autofocus, but Manual mode overrides autofocus and instead lets you focus using the up/down arrow keys.

The 945 also incorporates two flashes. The first is the pop-up flash, which you can activate with the release switch beside the Exposure dial. The flash button on the back panel (with the lightning bolt icon) toggles through three modes: Auto (fires as needed), On (always fires), and Night (lengthens flash duration to illuminate the background). You can also use each mode with or without red-eye reduction, which fires a preliminary burst to reduce retinal reflections.

The 945 supplements its pop-up flash with Digital Flash. The word "flash" may cause some confusion. It's actually a processing function that can lighten darkened areas of a shot without washing out the rest of the image. It reduces extreme contrasts to improve visibility, but it doesn't replace a conventional flash; you can use it with or without the pop-up, depending on circumstances.

When might this come in handy? In indoor shots using the pop-up, activate Digital Flash to reduce the harsh shadows that a flash often creates. Outdoors, use it on bright days to better expose a shaded region that deeply contrasts with sunlit areas or a backlit subject that lies beyond the pop-up flash's effective range.

To turn on Digital Flash, activate the screen with the Live View button and press the OK button to open the Capture Menu. Use the down arrow key to scroll to Digital Flash and press OK. Now, you can choose Low or High. Until you have enough experience using Digital Flash to anticipate its results (High can introduce graininess), you may want to shoot at both strengths, to make sure you get the best shot possible.

BY BRIAN HODGE

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Fujifilm FinePix S7000: how-tos

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The toughest thing about setting up your FinePix S7000 will be resisting the temptation to fiddle with all the buttons before you read the directions. Go ahead and succumb. We'll walk you through the basics; you can figure out the rest later.

Before you power on the camera, load the four included AA alkaline batteries (you'll change them for rechargeable NiMH [nickel-metal hydride] batteries soon enough) into the bottom of the handgrip and the included 16MB xD-Picture Card into the slot on the right side of the camera. Turn on the camera in Photography mode and set the time and date when prompted to do so. Use the four-direction Menu button on the back of the body to navigate through the menus, Nintendo-style. Now remove the lens cap and immediately become irritated as it swings around on the lanyard bonking into your hand; disconnect it and put the cap in your pocket. Cap stowed, set the Mode dial on top of the camera to Auto and fire away. The LCD screen displays the current image along with information about shutter speed, aperture, pictures remaining, film speed (ISO), and image size and resolution. The Zoom ring around the lens (which becomes a focus ring if Manual Focus is set on the side of the lens) will take you up to 6X optically, another 3.2X digitally. Once you have your fill of that big, beautiful LCD, you may want to switch to the viewfinder display via the EVF/LCD switch to save batteries.

As you shoot, you can trade image quality for file size with the resolution setting, accessible from the Photo Mode button. As you become more comfortable with the FinePix S7000 , wean yourself off the Auto setting on the camera's Mode dial and try out SP (Scene Position), which arranges the camera's shutter speed, aperture, ISO, and white balance to optimize one of four types of scenes that you select: Portrait (which blurs the background to make the subject stand out), Landscape (which aims at a large depth of field), Sports (a quick shutter speed to capture fast action), and Nighttime (long exposures to deal with low light, normally requiring a tripod). Next, use the P (Programmed Auto) button, which holds the exposure constant while you use the Command dial to scroll through different combinations of shutter speeds and aperture settings. The rest of the Mode dial is given to Shutter Priority, Aperture Priority, Manual, Settings (the master menu for nonimage-related settings such as beep volume, power saving, etc.), and, of course, Video Mode.

At some point, you'll want to download those pictures to a PC or print them directly on a PictBridge-compatible printer. In the Settings menu, navigate to the USB

Use the Finepix continous shooting mode to capture several consecutive shots quickly.

Mode option and set it to PC or PictBridge. After you've installed the software, fire up the FinePix viewer on your PC to shuttle pictures effortlessly to and from your new toy.

How To Shoot In Continuous Shooting Mode

Continuous Shooting is handy when you think that your subject is about to do something cool, but you don't trust yourself to anticipate it. And you shouldn't, with typical digital-camera shutter lags on the order of a second or so. Fujifilm awards Continuous Shooting its very own button on the top of the camera. Press and hold it while you select with the Command dial either Auto Bracketing, Top 5-Frame, Long Period, or Final 5-Frame modes. Auto Bracketing is an upgrade to an old lensman's trick for circumventing tricky lighting conditions by recording a slightly underexposed, slightly overexposed, and a (nominally) correctly exposed version of each shot. The Top 5-Frame mode shoots five shots in quick succession at about 3.3 shots per second—your best choice at many sporting events because you can hit the shutter during Tiger's backswing and catch that lovely follow-through. Long Period continuous shooting lets you nab up to 40 shots in a row, but the delay between shots is relatively long (about one second), and the image quality must be set at 3MP (megapixels) or lower. Final 5-Frame shooting is a nifty compromise in which the camera snaps up to 40 shots in a row, at 2fps (frames per second), but only records the last five of them. The inspiration for this mode is the astute observation that you don't know exactly when the action's going to happen, but you're pretty sure when it's over.

Before you shoot in Final 5-Frame or any other continuous mode, set the focus and exposure exactly the way you want them. The camera doesn't have time to adjust these things while it's shooting 2fps, so you're stuck with the values you set in the first frame. Take some care in setting up your shot. To catch a racecar coming around the bend, for example, focus first on the part of the track right in front of you (or wherever you anticipate getting the best picture) and then press the AutoFocus button inside the focus mode selector switch. This will freeze your focus at the correct distance for the entire shoot. Do the same thing with the exposure, using the Auto-Exposure Lock, especially if the scenes where you will start shooting and end shooting are lit differently. (One of them might include a large section of sky, for example.) With the focus and exposure set, you can press the shutter as Schumacher enters the straightaway, follow him down the track, and get your best shot as he whips by right in front of you. Then you just have to remember to pick up your finger.

BY RYAN TURNER

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What's Next For Digital Cameras

The Future's So Bright . . .

There's no denying that digital cameras have been improving by leaps and bounds in the last few years, quickly becoming nearly as convenient and cost effective as film cameras. As with so many gadgets, it seems that newer, better, cheaper cameras are being introduced all the time, making it impossible for a consumer to know when to buy and when to wait for the next big thing. We've looked into our crystal ball to try to predict what the future will hold for the next wave of digital cameras, and the future is picture perfect.

The Megapixel Race

The last few years of camera development could easily be described as the "Megapixel Race," referring to the contest among manufacturers to develop better image sensors. Digital cameras work by projecting light onto a grid of light sensors instead of a piece of film. Each sensor records the amount of light projected onto it, forming a picture element called a **pixel**, which is just a colored dot. However, thousands of sensors next to each other produce an enormous grid of colored dots representing the image. By making pixels smaller, camera makers have packed more and more of them into each shot, making the photos sharper and more detailed. Pixel counts now are commonly measured in the millions. A current midrange 4MP (megapixel) camera will employ over 4 million light sensors to compose each image. Manufacturers have been locked in a race to make more sensitive cameras and are currently up to about 14MP in high-end cameras. How far will the race for resolution go? The best guess is that digital cameras will continue to improve until they reach the quality of traditional film. 35mm 100 ISO film has a resolution of about 30MP, but imprecision in processing and printing typically lowers the practical resolution that you see with your snapshots to 10 to 15MP, a range that digital has already started to occupy.

The megapixel race will likely continue to some extent, but cameras are now so sensitive that in most cases, the extra resolution doesn't matter. For example, you can blow up a shot taken with a 3.3MP camera to a great looking 8- x 10-inch print. The extra resolution comes into play only if you want to "crop" your photo, cutting out a small part of it and

zooming in. By blowing up small bits of the picture this way, you risk exposing the individual pixels that were microscopic before. Normally, this is a problem for journalists, artists, and other professional photographers, but you may see similar distortion if you plan to enlarge photos. Still, in many consumer cameras, the sharpness is limited not by the sensor resolution but by blurring resulting from lens defects.

Camera sensors of the future will focus on making the best pictures from the number of megapixels they have. New creatively designed sensors, such as the Fuji SuperCCD (Super charge-coupled device) and Foveon X3 CMOS (Complimentary Metal-Oxide Semiconductor), are already taking better photos than traditional cameras. The Fuji technology uses octagonal pixels stacked in diagonal rows instead of the usual rectangular arrangement to pick up more light and make digital grain less visible to the human eye, which is more sensitive to horizontal and vertical detail. The Foveon sensor emulates film by placing layers of red, green, and blue sensors on top of each other instead of integrated into the same grid. Foveon claims that its 10.2MP sensor produces good prints up to 24 x 30 inches. Both companies claim to produce sharper images with better color reproduction and less digital noise.

If you plan to make moderately sized prints, expect prices to continue to drop as quality continues to increase. Look for low-priced 5MP pocket cameras in the $200 range, with standard point-and-shoot models at around 8MP going for $350.

Look At Lenses

Even if cameras' statistics look similar, the pictures that the next wave produces will be superior. When comparing today's 5MP cameras to those a few months down the line, expect better color reproduction, less digital noise, and more accurate lenses. Better lenses will let the cameras work with poor lighting and more effectively use the megapixels that their sensors provide by accurately focusing light onto the sensitive area. There's no easy way to compare the quality of lenses by looking at the box, so when you shop, look at sample images to see which cameras take the best pictures. You can, however, get a good indication of the speed of a lens, or how much light it lets in. Lenses that let in more light will take sharper pictures of moving subjects and in dim conditions. Look for a maximum aperture of f/2.8 to be fairly common. Lenses will be capable of greater magnification and greater image stabilization that digitally steadies a photographer's shaky hand.

Memory Matters

Perhaps the biggest frustration with today's cameras is with the small memory cards they ship with. Often likened to reusable digital film, the standard cards often hold as few as 12 pictures. Having to attach your camera to a computer to unload your pictures every dozen shots or so isn't anyone's idea of a good time. However, SD (Secure Digital) memory card prices have been dropping, so expect cameras to ship with a minimum of 64MB or 128MB of storage instead of the current standard of 16MB or 32MB. Practically speaking, the number of pictures you can store depends on your camera and settings, but a good guideline is to expect each picture to take up a little more than 1MB at high quality settings. Clearly, the difference between 16 photos and 128 is a huge gain in convenience, especially if you take most of your photos while traveling.

Of course, if you're on vacation, 128 photos may not be enough. Camera makers will experiment with memory cards that hold hundreds of high-res photos and will probably even try incorporating small hard drives into cameras that hold thousands of pictures. There are even some reports of manufacturers

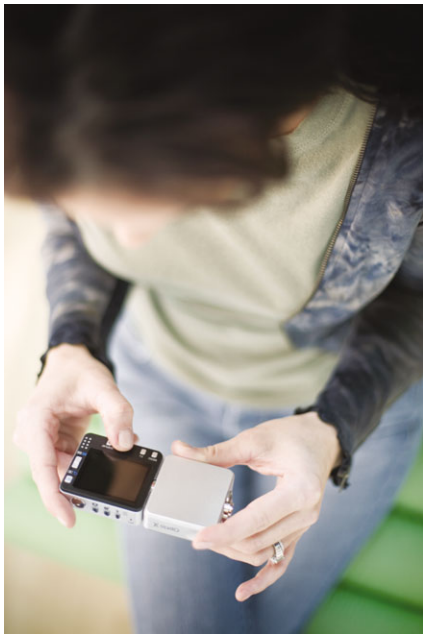
using mini recordable DVD-Rs to store pictures, so you can archive the photos without a PC. Look for camera technologies to continue expanding storage options to hold hundreds of high-resolution shots, instead of dozens.

The Future Of Film

One of the more interesting classes of digital cameras we'll see are those that still use traditional film in addition to their digital sensors. These hybrid cameras combine the best features of film and digital photography. You'll be able to switch back and forth between film and digital, even picture by picture if you'd like. Some cameras will include instant Polaroid-style printouts for digital pictures; others will let you get a digital preview of a picture before exposing the film, or a digital replay so you can decide if you want to spend the money to print the shot you've taken. Other companies are working on a kind of "silicon film" adapter that will convert any 35mm film camera into a digital camera. Hybrid cameras will probably be aimed at niche markets, but if you have demanding storage or archiving requirements they will offer new convenience and flexibility that neither pure analog nor digital systems can provide. If you need to shoot on film, you'll be able to reduce developing costs and create instant digital backups, so you'll never lose a picture, even if there's an error at the developing lab.

The Usability Gap

Consumers complain most about how hard digital cameras are to use. Changing settings often requires using tiny, confusing buttons to navigate a bewildering, complicated menu structure. If you're a point-and-shoot photographer, organizing and offloading photos is a time-consuming and frustrating ordeal. Consumers want digital cameras that



work like film cameras, and they want to easily transfer pictures to their PCs, email, and onto paper. Camera makers are starting to deliver.

In the next generation of technology, expect sleeker, simpler interfaces that use a few well-designed camera controls to take pictures, instead of a computerized menu system. Product designers know that consumers only use a small fraction of the feature sets because they find the cameras so complicated. The features that make your pictures better in the future will be much simpler to operate or completely automatic. Taking pictures with a digital camera will feel more like a film camera and less like a cell phone. Expect companies to deal with **shutter lag**, the annoying delay digital cameras often experience between when you press the exposure button and the camera snaps the photo. Delays are less than one second in some cases, and you can expect them to disappear soon.

The rechargeable batteries that power digital cameras should store more energy and charge faster, so you don't have to wait as long for your camera to charge, or worse, miss photos because of a power loss. Transferring your photos will also get faster and easier. Most cameras now use a USB cable to send data to a computer or printer. USB is fast, but few of us will complain if we no longer have to fumble with cables. Cameras of the future will transmit data wirelessly over Bluetooth and Wi-Fi to connect to your PC, printer, and directly to the Internet.

If you take a lot of pictures, your computer's Desktop will quickly become cluttered with confusingly named directories and hundreds of mixed-up pictures. Expect new camera software to help you keep track of your photos and name them more effectively. Many cameras already let you record a voice annotation when you take a shot. This feature will get easier to use, and cameras will start recording and using more information about how you take your pictures to help you keep track of them. Sorting your pictures by the date and time will be easier, preventing them from getting lost in the shuffle. Some manufacturers are planning to integrate GPS (Global Positioning System) technology into their cameras. When you take a photo, the camera will record your position and direction, letting you sort your photos by location. The result is that when you upload your pictures after a trip, your computer knows to separate the shots of Mount St. Helens from those of your business trip to Chicago.

Better Pictures, Cheaper & Easier

Overall, expect the next generation of digital cameras to get smaller, faster, cheaper, and easier to use. The dream of a point-and-shoot shirt pocket camera that takes and stores 1,000 film-quality photos without a recharge is a few years away. The future won't be bells and whistles, but simplicity, clarity, and transparency.

BY JOSEPH S. BELL

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Canon Optura 400: how-tos

Canon Optura 400
$999
www.usa.canon.com

The Canon Optura 400 is a portable DV (digital video) cam that records to Flash memory or tape, lets you snap photos, and supports high-end DV features, such as exposure bracketing and scene modes. The most important feature for DV camcorder enthusiasts is the Optura 400's small size, which makes the DV cam portable and easy to use in any setting. You can slip the leather strap around your palm and position the camera for the most Hollywood-worthy viewing angle.

As with most camcorders, the first step you'll undertake when you unpack the Optura 400 is to start charging the battery. First, attach the battery pack to the camcorder. Brackets on the battery slide into place on the left side of the cam. Now, flip open the front panel marked AV/DCIN. Fit the power cord into the black 8.4V connection. A light on the DV cam will blink while charging and remain steady when the battery is fully charged.

The Optura 400 uses standard MiniDV format cassettes. With the camera plugged in and charging, slide the Open/Eject switch (located on the bottom of the camcorder) toward the back. The cassette tray will pop out on the right side of the camera. Slide your blank cassette into the tray with the label facing out. Next, push down slightly on the cassette tray until it snaps into place and then wait for the cassette tray to retract automatically and close the cassette cover.

Slide the power switch to the Camera position. Now, flip open the LCD screen. Find the tiny lever marked Open with an arrow (the LCD is located just above the battery). Use this screen to frame your setting when shooting video for best filming results. If you're in bright light and it's hard to see the LCD, you can use the camcorder's smaller optical viewfinder. Using the viewfinder also extends the camcorder's battery life. Slip your hand into the grip and adjust the grip as necessary so that your index finger fits over the zoom controls.

To access the DV cam settings, including time and date and widescreen modes, press the Menu button. Push the Set scroll wheel just to the right of the Power button to Select. The menu options will change depending on whether you are in Camera or Play mode. Also, there's a switch next to the zoom controls for switching between an SD (SecureDigital) flash memory record mode and tape mode. To use an SD flash memory card, pull open the door marked SD. Insert the card with the label facing out.

To snap a picture with the Optura 400, press the Photo button located next to

A tight grip around the camera body will help you position the Optura 400 for the best shooting angle.

the zoom controls. To record video, press the red Record button. To watch your footage on the LCD screen or a connected TV (more on this in a moment), slide the Power switch to Play and use the Forward, Reverse, and Play buttons located by the LCD screen. You can also access various video effects such as Color Mask and Sepia and use the camcorder's slideshow feature. You can also connect the DV cam to your TV to watch recorded videos (using the included cables).

Use The Widescreen Mode

The Optura 400's Widescreen option is a useful feature for users who have widescreen plasma or LCD TVs. A 16:9 **aspect ratio** (the ratio of a screen's width to its height) shows more of the scene than the television standard of 4:3. With the Optura 400, you can record any scene in Widescreen mode. The camera automatically switches to a higher-resolution recording mode when you enable Widescreen mode and adds those familiar black bars above and below the scene.

To enable Widescreen mode, flip the Power switch to the Camera mode. Make sure the switch near the zoom controllers (marked with a W and T) is set to the Tape icon. Now, press the Menu button. Use the Set scroll wheel to scroll down to Camera Setup and push in the Set wheel. Scroll down to 16:9. Push in the Set wheel and set the option to On. Push in the Set wheel again, then scroll down to the Return option and push the Set wheel yet again to exit the menu. The LCD will display a widescreen view.

A few tips on recording in 16:9 mode: First, you should know that the image on the LCD might look condensed, and that's OK. The LCD uses a 4:3 aspect ratio, just like a TV. On a widescreen television, which uses a 16:9 aspect ratio, the video footage won't look condensed. When shooting widescreen video, you can capture a wider angle of view and the whole image will fill a 16:9 screen. Also, the Optura 400 produces a clearer image in Widescreen mode. So, with the wider image, you can zoom back a bit while filming family members and capture a wider viewing angle at a higher resolution.

After shooting your video, connect the camera to a plasma or LCD widescreen television. You don't have to use any special cables to use Widescreen mode. Just connect the cam to the TV with the video cables that came with the Optura 400, using the yellow A/V In/Out port on the front of the cam. Set your widescreen TV to 16:9 mode. Once the TV's in 16:9 mode, when you play back the Optura 400 video, you won't see black letterbox bars, just your stunning high-res video.

BY JOHN BRANDON

Panasonic PV-GS120: how-tos

Panasonic PV-GS120 Camcorder
$699.95
www.panasonic.com

Camcorders used to be big, heavy, and cumbersome, but if Panasonic's PV-GS120 represents the direction in which camcorders are headed, those days are disappearing rapidly. This ultra-compact digital camcorder weighs a single pound, and at 3 inches high x 5 inches wide x 2.75 inches deep, it fits comfortably in one hand.

Getting started with the PV-GS120 takes a few hours, but most of that time is spent charging the battery. If you can do without the battery for the time being, by plugging the camcorder into a wall socket, you can use this camcorder within minutes of opening the box. Insert the AC attachment into the battery compartment, plug the attached cable into the AC adapter, and run the power cable from the AC adapter to the receptacle. You're off and running.

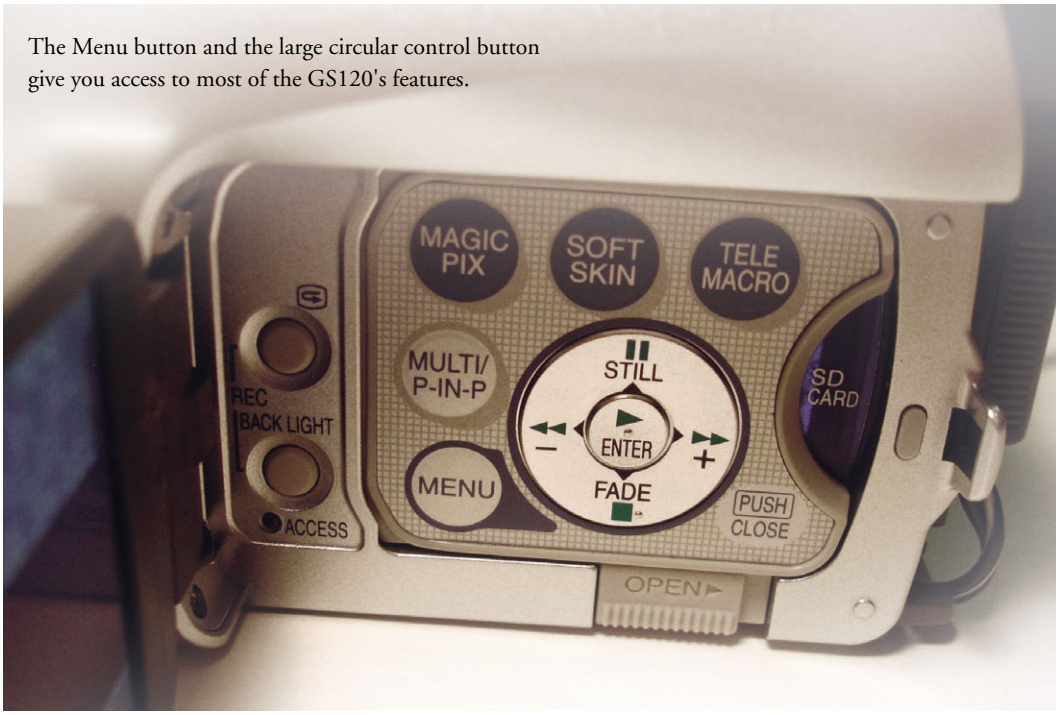
Well, not quite. Unless you want to use the camcorder solely for taking still pictures, you need to buy a Mini-DV cassette tape on which to record your video. With the camcorder turned on, slide the Open/Eject lever (on the top of the case) toward the front of the unit and wait until the compartment cover opens. Insert the cassette into the compartment. When it slides into place, close the cover. *Now* you're off and running.

Hold the camcorder and turn the Mode dial until it reaches the red icon that looks like a video camera. You're now in tape recording mode. Open the LCD monitor door by pressing the Open button (facing you, on your left) and aim the camera until the LCD shows the scene you want to film. Press the Record button, the small button with a red dot in the center located on the power switch lever, to start recording and press the same button when you wish to stop.

Editing Without Editing

To edit video from many camcorders, you'll have to transfer the video to your PC, load it into a video-editing program, and apply whatever effects you want. If you want to fully edit the video you shoot with the PV-GS120, that basic process doesn't change, especially if you've recorded several times more footage than you need for the final production. But if you're careful about what you record, you can use the PV-GS120's onboard video-editing options to add interesting effects to your video as you shoot it, which will provide your eager viewers with something to watch as soon as you've finished filming.

Fade-in and fade-out. A video that starts with a bright, glaring image may be a bit of a jolt for your audience, but you can tone down the introduction using a common special effect. Simply fade into the first scene and fade out of the final



The Menu button and the large circular control button give you access to most of the GS120's features.

scene. Turn on the PV-GS120 and open the LCD monitor. Set the PV-GS120 to the tape recording mode by rotating the Mode dial to the far left icon (the red movie camera icon). On the control panel (which is behind the LCD monitor), press and hold the Fade button until the monitor goes black. Now, press the Record button, releasing the Fade button a few seconds after you've started recording. You can see the picture reappear on the LCD. When you want to fade out, press and hold the Fade button while recording until the monitor turns black.

The widescreen look. For those who prefer the look of widescreen movies, where black lines run along the top and bottom of the TV screen, the PV-GS120 lets you add a similar effect. This Cinema Function doesn't actually do what letterbox movies do, letting viewers of films on TV see the entire width of the film as it appears in the theaters. Rather, it simply adds the bars so it looks like a letterbox version. To enable it, set the camcorder to its recording mode and press the Menu button. Press the down arrow until the Recording menu is highlighted, the right arrow for the submenu, and the down arrow again until you reach Cinema. Press the right arrow to access the On/Off menu and choose On by pressing Select. Press the Menu button to exit and start recording.

Create groovy effects. The Digital Effects menu on the PV-GS120 gives you several options for adding zing to your recordings without importing the video into an editing program. You have two menus' worth of effects. To select them, press the Menu button while in tape recording mode and use the arrow keys to move down to Digital and then to the right for the Digital Setup submenu. Move to the right again for Effect1 or down once and to the right for Effect2. Then press the down arrow until you reach the effect you want and press the Enter button.

The Effect2 menu offers three fairly standard modes: Negative (recording as a negative image), Sepia (recording in sepia tones), and Black and White mode. There's also a Solarisation mode that results in a video that resembles a painting.

The Effect1 menu is more extensive. The P-in-P (picture-in-picture) option lets you place a small still picture (from your memory card) into the bottom-right corner of your video. Mosaic chops the video into small pieces for a pebbly effect. Mirror splits the image in the middle, with the right and left halves mirroring each other. Stretch enlarges it width-wise, while Slim does the opposite.

Note that you can't configure any of these options. They simply allow you to add effects to your video on the fly, and once you get to know them, you can produce effective videos quickly.

BY NEIL RANDALL

Hitachi DZMV580A: how-tos

Hitachi DZMV580A
$899.99
www.hitachi.us

Recording digital video to old-fashioned tapes seems a bit anachronistic. Rewinding is a thing of the past, right? Hitachi thinks so, and its DVD-based camcorders back it up. We'll show you how to make the most of the DZMV580A and its features.

The first thing to realize about DVD recording is that not all formats are created equal. The DZMV580A records to both DVD-R and DVD-RAM media. The right choice for any given job depends on what you want to do with the video. DVD-R is best for video recorded linearly that you'll want to drop immediately into a regular DVD player. DVD-RAM is a rewriteable format and more amenable to PC-based editing, so it's the better option if you want to edit the video after you're done shooting it. Either option uses 3-inch (8cm) discs, available from almost any electronics or computer retailer.

After charging the camcorder's battery, insert a blank disc into the DZMV580A's side compartment. The machine must be on for the door to open. The DZMV580A's basic controls are intuitive; adjust the Power Switch dial to set the shooting mode and press the Record button to start and stop filming. There are extra buttons for manually controlling focus, exposure, and backlight compensation underneath the flip-out LCD.

Regardless of which media you're using, you'll have about half an hour of recording time at Fine quality and an hour on Standard. Set the Video Mode from the Record Functions Setup, the second option after pressing the Menu button. Save still pictures on DVD-RAM or SD (Secure Digital)-card media by turning the power switch dial to Photo instead of Video. Before starting to film in earnest, spend a few minutes in the menu. With a disc loaded and the Power Switch dial set to Video, press the Menu button. If the Quick Mode switch (above the LCD) is set to On, you'll have fewer menu options. Set it to Off until you get things set the way you want them.

Use the small joystick at the bottom of the controls (on the unit's left side) to navigate the menus. Pay particular attention to the Program AE (autoexposure) and Video Mode (quality level) settings. Adjust each to your shooting environment and preferences (such as Portrait, Spotlight, Low Light). If you're feeling ambitious, or just want to experiment, switch to manual operation using the Focus, Exposure, and BLC (Backlight Compensation) buttons behind the LCD. Press the button corresponding to the element you'd like to

Many of the DZMV580A's controls are on the left side of the unit, near the LCD.

control and use the + and – buttons to make your adjustments. Revert to automatic mode at a touch of the Full Auto button, also found behind the LCD.

Finishing touches are what really set DVD-based camcorders apart. DVD-R discs must be "finalized" before another player can read them. Until you finalize the disc, you can continue to add material (though you can't de-lete or rearrange prior recordings). Af-ter finalizing the disc, its contents are set and readable on most DVD players. When you're finished shooting to DVD-R, move the power switch dial to Video mode. Press the Disc Navigation button to view the disc's programs (each representing a separate recording session) and play back recorded material from the DZMV580A. DVD-R doesn't offer any editing options—what you shot is what you get. To finalize the disc, navigate the Disc Navigation menu to the Disc submenu. Choose Finalize, press Play, confirm, and press Play again.

DVD-RAM, however, allows editing both on the camera and after transferring files to your PC. Access a DVD-RAM's programs and scenes with the Disc Navigation button. Again, make sure Quick Mode is off to present the full range of options. Select a scene you'd like to edit and press Menu. Under the Edit submenu, choose to Skip, Fade, Combine, or Divide scenes. You can also create and edit playlists and manage Program information (a program is made of all the shooting from a given day). You don't need to finalize DVD-RAM media, and it's a rewriteable format, so feel free to experiment both on the camera and with software tools.

BY GREGORY ANDERSON

Sony DVD Handycam DCR-DVD101: how-tos

Sony DVD Handycam DCR-DVD101
$799.99
www.sonystyle.com

The Sony DCR DVD-101 is an easy-to-use 1.1-pound camcorder packed with recording prowess you won't find in most sub-$1,000 DV cams. To help you make the most of it, we'll walk you through the camcorder's basic setup, as well as cover some more complex and useful features.

As with any portable consumer electronics device, the first step when you unpack the DVD101 is to charge the battery. You should charge the lithium-ion pack for about two hours. Unlike some older batteries, it's not absolutely necessary that you wait for a full charge, but you might as well. To charge the battery and use the DV camcorder, plug the power cord into a wall outlet and the AC adapter, and connect the AC adapter cable to the DC In port, which is located just above the green power-on button.

For now, set aside the CDs that came with the digicam, the A/V cable that you can use to connect the DVD101 to a TV, and the remote. Next, attach the lens cover strap and shoulder strap. You'll notice the DV cam has a nice rugged handgrip (marked Sony in big letters). Use the Velcro strap to adjust the strap so it best fits your hand.

Unpack the included DVD-R DMR-30 disc. You'll find that the 3-inch discs look a bit different (thinner, smaller) from standard DVDs, but they will play on most DVD players and computers. Push the Open button on the camcorder, located near the lens. The DVD101 chimes softly for a few seconds, warning you that the disc case will open. When it does, insert the disc with the label facing out and snap it securely in place by pressing gently near the center of the disc. Then, close the cover.

To power on the camcorder, press and hold the green Power button for a few seconds. Note that if you only press it for a second the camcorder won't turn on. That's a good thing because it means you can safely carry it around with you and the device won't turn on accidentally.

The green Power button is surrounded by the Mode dial you use to set the camcorder's record and play modes. When the jog dial is centered, the camcorder will record video. Click up once to the Play icon and you can review your recordings. Click down one notch and you can take photos, which are recorded onto the DVD-R disc.

To record, first flip open the LCD cover. Set the camcorder in Movie record mode (jog dial to center position).

Sony's light attachment for the DVD-101 will brighten up dark shooting conditions.

Center your scene and press the red Record button located just under the Mode dial.

Advanced Lighting

When it comes to recording video, there's no more important factor than lighting. Dark videos are dull, whereas properly lit movies look rich and colorful. The Sony DCR-DVD101 has several modes to adjust to various lighting conditions. This camcorder's most helpful lighting tool is its AE (Automatic Exposure) option. AE adjusts the DVD101's lighting exposure for specific conditions, such as a dark room or sunsets, so that the video still looks bright and colorful.

To enable an AE setting, press Setup and then use the multiselector dial next to the Setup button until Manual Set appears. Scroll down to the first option, Program AE. Now use the multiselector dial again to select the option you want to use that most closely corresponds to the scene you are shooting. For example, at dusk, you may want to use the Sunset/Moon setting.

Another method for controlling lighting is to enable the DVD101's NightShot Plus mode, a powerful high-aperture exposure mode that you can use for filming in dark situations. Simply slide the NightShot switch to On and start recording.

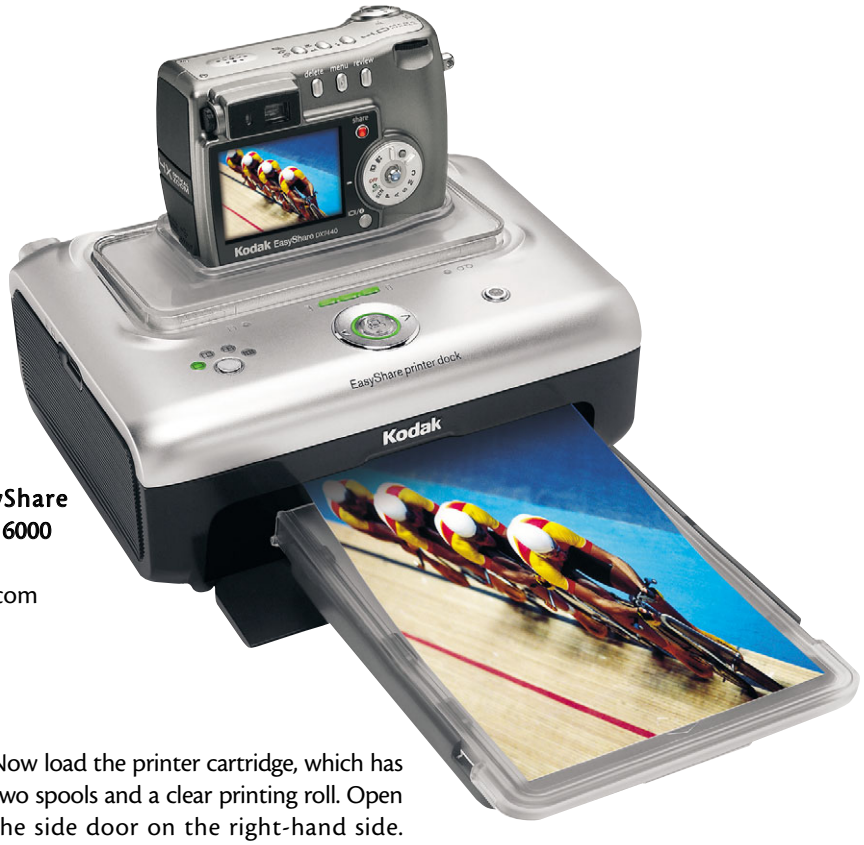
A third option for making movies look better: There's a second backlight button on the DVD101. This mode adds a slight amount of exposure to the scene. Look on the left side of the camcorder and press the Backlight button to enable it. Just be aware that the backlight option for the DV camcorder can cause some blurriness, depending on the scene, and is a poor substitute for a good external light.

If you'll be shooting in all sorts of lighting conditions, you might want to consider buying the Sony HVL-S3D light attachment for the DVD101. This small but powerful 3-watt light will improve the quality of indoor filming and even help in low-light outdoor settings. You'll need to snap the light into the carriage on the top of the DV cam. First, pull the viewfinder back away from the carriage. Next, slide the light into position—note that there is an arrow on the bottom of the light showing you which way the light inserts. Turn the locking mechanism so that the light is securely seated.

Now you can flip the switch on the light either to On, which means the light will stay on no matter where you are, or Auto, which will cause the camcorder light to come on only in lower-light conditions.

BY JOHN BRANDON

Kodak EasyShare Printer Dock 6000: how-tos



Kodak EasyShare Printer Dock 6000
$149.95
www.kodak.com

The Kodak EasyShare Printer Dock 6000 is designed for ease of use. Still, we've found that mobile printers can be confusing to set up and use, especially when tapping their advanced features. We'll show you how to set up and use Kodak's EasyShare Printer Dock 6000, plus show you how to print nine-ups (nine photos on a single page).

To get started, unpack the printer and set it on a smooth, even surface, such as a desktop or counter, and lay out all the included materials so you can find them easily. Place the universal insert (the clear plastic tray) on top of the printer mount so that it snaps into place. You'll need to fit the front tabs in first, followed by the back tabs. Next, plug the power cable into the AC adapter and the AC adapter cord into the printer, but don't power up the printer just yet.

Now load the printer cartridge, which has two spools and a clear printing roll. Open the side door on the right-hand side. There's only one cartridge door. The other side is where you can attach an optional USB cable. On the cartridge, look for an arrow that points to one side. Push in slightly on the larger spool and turn it so that you take up the slack on the cartridge. Now insert the cartridge so that the arrow is pointing in. The cartridge should lock into place. Close the tray.

The tray goes in the front of the unit, and you'll have to flip down a small door before you insert the tray. The tray should lock into place so that you can read the Kodak logo correctly on the printer and on the tray. Load the included photo paper so that the Kodak logo on each sheet is facing down. Here's a paper handling tip: Make sure you never touch the glossy side of the sheets that face up. If you do, you may see your fingerprint on the finished photo.

Now, snap the Kodak EasyShare camera (the dock only supports the KODAK EASYSHARE CX/DX 6000/7000 and LS 600/700 models) onto the base of the printer dock, which has a tiny clear plastic prong that fits on the camera. The tripod hole on the bottom of the camera fits over the larger plastic prong. The camera connection terminal should fit snuggly. Once you have the camera positioned correctly, you can turn on the printer dock's power. Use the Left and Right arrows on the printer to scroll through photos stored on the camera and then press the Print button to print the selected picture.

Nine-Up Printing With Multiple Photos

Printing with the EasyShare Printer Dock 6000 is a one-step process: Just

The paper tray loads in the front of the printer, just below the Kodak logo.

press Print. If you want to print several photos on the same sheet, you can use the Copies button located just to the left of the Print button on the dock. You can select two-up, four-up, and nine-up printing. Keep pressing the Select button until the nine-up option is selected.

By default the printer will simply make copies of the selected photo for the multiphoto sheet. For example, if you select nine-up printing, the same photo will be printed in all nine positions on the sheet. However, there is a way to print a different photo in each position, which means you can print several wallet-sized photos of various pictures on a single sheet of paper.

To print different pictures in each of the nine positions, you'll first need to tag the photos you want to print. And to do that, you'll have to remove the camera from the base. Just press the Review button on the Kodak camera and scroll through the photos. When you see a photo you want to print on the nine-up, press the Share button followed by the Select button (the larger button in the center of the green glowing dial). Each time you select a photo this way, you will be tagging that photo for inclusion in the nine-up layout. Find eight more photos and tag them for a total of nine shots. Or, you can tag multiples of nine, such as 27, to print even more individual photos.

Before you reconnect the camera to the printer, press the Copies button so that you will be printing a nine-up. Place the camera back on the printer. Note that as soon as you do, the printer recognizes that you have tagged photos and switches to tagged photo mode. If you have tagged pictures, you can press the Print button on the dock and switch to Tagged mode. Press the Print button again in Tagged mode, and the printer will automatically use the tagged pictures for the nine-up sheet, printing a different photo in each position. Press the Print button, and the printer will automatically use the tagged pictures for the nine-up sheet, printing a different photo in each position. If you tagged more than nine photos, the printer will generate multiple nine-up sheets for all the photos.

Although the Kodak Printer Dock 6000 is pretty easy to use, you may run into problems occasionally. At any time during the printing process, press and hold the Print button for a second or two to cancel the print job. For greater control over printing, you can connect the EasyShare Printer Dock 6000 to a PC using a USB cable, and control it with the included Kodak printing software.

BY JOHN BRANDON

Creative cropping: With these photos, it was only after we got home with the original shot (left) that we realized how much more striking it would be to reduce the image solely to the center plant (right).

tips

Creative Digital Photography

1 **Fill the frame.** When peering through a viewfinder, beginning photographers often tend to see an isolated subject as larger in context than it really is. In the resulting photo, the subject may then appear dominated by the setting and surrounded by too much neutral space. To avoid this, move in closer—physically, if possible, or with a telephoto lens—and ensure that your subject occupies most of the frame. This will usually give the photo much greater impact and immediacy.

2 **Share the warmth.** Digital photos can sometimes look too cool for their own good. That is, the warmth you remember from a scene hasn't quite carried over. This is usually a factor of the white balance control, which attempts to maintain color accuracy by compensating for different lighting sources. Cameras typically default to an Auto setting, which can err on the cool side, particularly with paler tones. Instead of Auto, try the Cloudy setting, which will emphasize red and yellow hues, generating an overall warmer image.

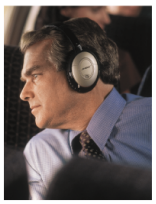
3 **Look high and low.** People are so accustomed to seeing objects from standing-height eye level that photographs shot from this position can look awfully mundane to the viewer. With some photos such as close-up portraits, it doesn't matter. But with landscapes, architecture, and other still-life photos, try shooting up at or down on your subject. Approaching them from an elevation from which most people never see these things can bring a fresh perspective to even familiar objects.

4 **Polarize it.** If you have a digital camera that uses lenses that are threaded to fit add-on filters, you should invest in a polarizer. A polarizer filter cuts through glare, reflections, and the sheen on wet objects and increases color saturation. Its effect can also dramatically enrich the appearance of the sky and clouds. But what if you're using a compact camera with a smaller lens that can't accommodate filters? You can fake a polarizer filter by holding one side of a good pair of sunglasses as close as possible over the camera lens.

5 **Look for the picture in the picture.** You don't need expensive photo software to perform fundamental image tweaks. Even the basic editors that come bundled with many digital cameras make it easy for you to crop photos. Use them! Photographers sometimes shoot photos whose wider scale detracts from the true picture: a smaller detail that turns out to be more interesting or to the point than the whole. By cropping out the extraneous elements, you can direct the viewer's focus where it really belongs. ce

BY BRIAN HODGE

Think of them as a reprieve from the world around you. Whether it's the engine roar on airplanes, noise of the city, bustle in the office or the blare of neighborhood yard work, these headphones help you escape them all. And they do it with the flick of a switch. You savor delicate musical nuances in places where you couldn't before. And when you're not listening to music, you can use them to quietly enjoy a little peace. Clearly, Bose QuietComfort® 2 headphones are no ordinary headphones. It's no exaggeration to say they're one of those things you have to experience to believe.



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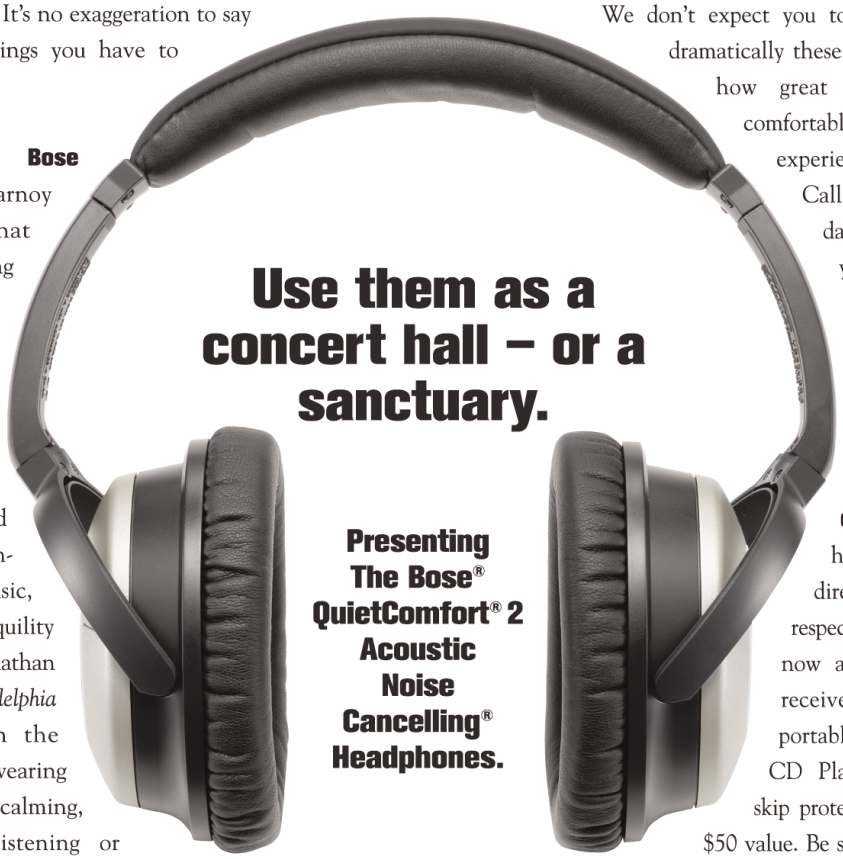

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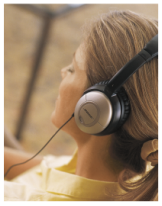
Enjoy your music with our best headphone sound quality ever. After trying QuietComfort® 2 headphones, audio critic Wayne Thompson reports that "Bose engineers have made major improvements." The sound is so clear, you may find yourself discovering new subtleties in your music. *CNET* says "All sorts of music – classical, rock, and jazz – sounded refined and natural."



"The QuietComfort 2 lives up to its name, enveloping you in blissful sound in the utmost comfort. It's easy to forget they're on your head." That's what columnist Rich Warren says. And as Ivan Berger reports in *The New York Times*, the "QuietComfort 2 offers more conveniences than the original model." You can wear them without the audio cord to reduce noise. Or, attach the cord and connect them to a portable CD/DVD/MP3 player, home stereo, computer or in-flight entertainment system. When you're done, their convenient fold-flat design allows for easy storage in the slim carrying case.

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HP iPAQ h6315 Pocket PC Phone Edition: how-tos

HP iPAQ h6315 Pocket PC Phone Edition
$599.95
www.hp.com

Like the Handspring Treo 600, the iPAQ h6315 Pocket PC Phone Edition lets you manage your information and place cell calls. The difference between the two devices is that the Treo 600 is a cell phone with PDA features, while the iPAQ h6315 is the reverse. Its clearly a PDA, to the extent that if you saw one on the street, you wouldn't know it had a built-in cell phone at all.

To use your h6315, you first have to install your cellular service provider's SIM (Subscriber Identity Module) card and charge the battery. If the unit comes with the battery installed, remove the battery by sliding the battery lock to the right so that the red coloring appears; you can now open the back, with red indicating you can't use the device in this condition.

The SIM tray is located at the top right of the inside of the case. Push it to the right to unlock it and swing it open, and then push the SIM card into the tray so that the notched corners line up. Swing the assembly down and lock it into place.

Put the battery into place by sliding the tabs at the top of the case into the slots at the top of the battery and snap the bottom into place. Slide the lock to its green position, place the unit in the charger, and give it four hours to charge.

With the charge finished, turn on the h6315 by pressing the Power button at the top right. The screen now prompts you to begin the alignment process, during which you simply use the stylus (located in its holster at top right rear) to press specific screen locations. After alignment, the 6315 starts a tutorial; unless you're a Pocket PC veteran, run through it to learn the basics about using your new investment.

After the tutorial, the 6315 displays the Today screen, the default interface every time you power on the unit. Unless you need to do something immediately, you should explore the device. Press the Start button to reveal the iPAQ's programs and launch any you want to try out. Open the calendar and enter an appointment. Open Notepad, Word, or Excel to learn how to input data using the stylus. Attach the removable keyboard by sliding it onto the bottom of the h6315, open a program, and practice typing with your thumbs. Launch the HP image capture utility, take a picture, and store it. Install the iPAQ software on your desktop or notebook PC, plug the 6315's USB cable into a USB slot on the PC, and step through the Synchronization wizard to let your iPAQ and PC work together.

Finally, place a phone call. Turn on the phone by pressing the red telephone button near the bottom of your iPAQ and then use the on-screen dial pad or

The detachable thumb keyboard slips easily onto the bottom of the iPAQ.

the thumb keyboard to dial. Press Talk and wait for the other person to answer.

Connect The iPAQ To A Wi-Fi Network

To connect the h6315 to your home or office Wi-Fi network, you need to turn on the iPAQ's wireless LAN (local-area network) feature. To do so, press the Wireless icon in the bottom-right corner of the iPAQ's Today screen and tap the Wi-Fi button in the middle of the subsequent iPAQ Wireless screen.

Once Wi-Fi is on, the previously grayed-out Settings button appears beside the Wi-Fi button. Tap it to open the Settings dialog box. Here you can see any wireless connections the PDA has automatically found, and if your Wi-Fi network has been configured to let anyone access it, it shows as Available. This is also the case for networks that automatically assign security keys, a typical configuration for commercial hotspots such as coffee shops and libraries. If the network requires you to configure your devices for a specific key, you can enter it manually.

To do so, you first need to know the name of the network, called the SSID (service set identifier). If the network doesn't automatically appear in the Wi-Fi Settings dialog box, you'll have to ask the administrator for the SSID. If connecting to your own wireless network, follow the instructions that came with your wireless router or access point (the device that connects to your PC and controls wireless signals) in order to access your network's configuration menu. You can get your network's SSID from those screens.

On the h6315, press Add New on the Wi-Fi Settings dialog box. Use the on-screen or detachable keyboard to type in the SSID; then press OK in the top-left corner of the screen and wait for a minute. If the Available icon appears, you can launch Internet Explorer or your email program and go to town. If not, you probably need to configure the security key and authentication type. Once again, ask the administrator (or open your access point settings on your PC) for this information; then press the Network Key tab on the Wi-Fi Settings screen.

Next, use the drop-down menus to choose the authentication and data encryption type. Most home Wi-Fi networks use Shared authentication and the WEP (Wireless Equivalent Privacy) encryption method. Some locations use the WPA (Wi-Fi Protected Access) authentication method. When you've made your selection, uncheck This Key Is Provided For Me Automatically and type in the security key. Again, ask the administrator or open your PC's wireless network menus to get these details. Press OK and wait for the iPAQ to show the network as Available.

BY NEIL RANDALL

Sony Ericsson K700i: how-tos

Sony Ericsson K700i
Price: Varies by cellular provider
www.sonyericsson.com

Sony Ericsson's K700i is a slim phone with a built-in camera. The phone has a built-in FM radio and plays MP3 files, and you can use it to browse the Internet over a cellular network. One of the first things you might notice about the K700i is the bubble-shaped keys, which makes phone dialing easier.

After you unpack the phone, slip the back cover off and remove the battery. Insert the SIM (Subscriber Identity Module) card that you got with the phone or that you used in your old phone. SIM cards contain data about your calling plan. Without it, you won't be able to make phone calls or access cell phone networks.

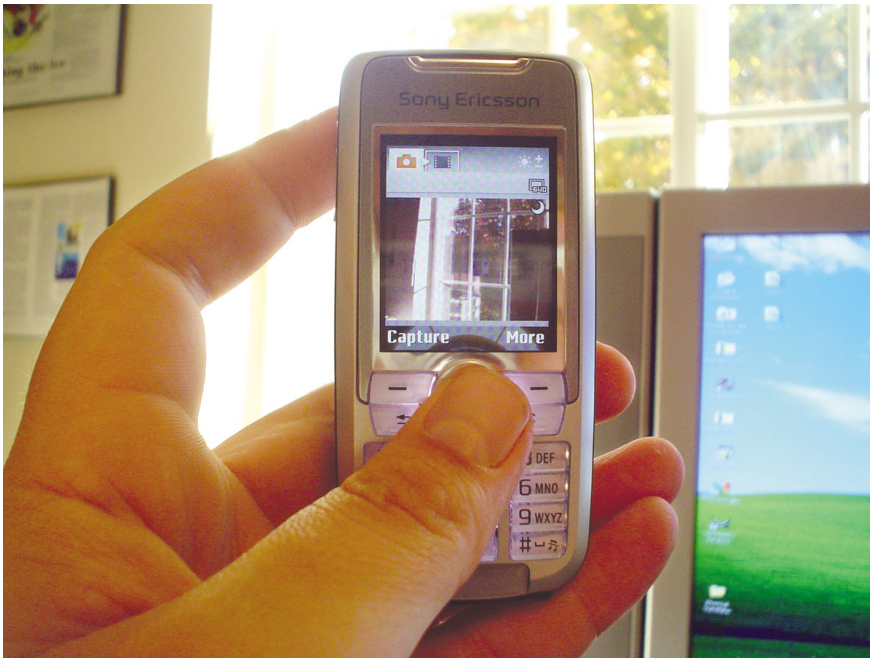
Now it's time to charge the phone's battery. Connect the charger to the K700i and charge the phone for about four hours. Once charged, press the Power button located on the top of the phone. At this point, depending on your cellular carrier, you may need to enter a PIN number to activate the phone (call your cellular service or access its Web site for more info).

To make your first phone call, enter the number (including area code) and press the Select button below Call. End the call by pressing the Select button below End Call. To take a photo, press the Camera button on the left side of the phone once to access the camera function and again to snap the picture. To access the Web browser, press the Online button located on the right side of the phone.

Press the joystick above the number keys once to access phone functions. Scroll to the function you want using the joystick and click it to access the function. For example, you can scroll to the Radio icon to listen to FM radio. To listen to the radio, you'll need to connect the phone's earbuds, which snap into the bottom of the phone. The K700i's other functions include a phonebook, games, messages (including email and SMS, short text messages that you can send to other cell phone users), a media player, ringtones, and other phone and connection options. Use the Back button (the one that looks like an arrow pointing backward) to return to the previous screen. Use the C button to backspace.

How To Transfer MP3 Files

If you want to listen to MP3s on your phone, it's best to use the included earbuds for best sound quality. However, you can also play MP3 files through the cell phone's speaker, which works fine as long as you are in a quiet setting. Before you can transfer MP3 files to the K700i, you'll need to set up a Bluetooth connection between your phone and your



To snap a picture with the Sony Ericsson K700i, position the cell phone for the photo and then press the Select button next to Capture.

computer. Bluetooth is a short-range wireless networking standard that lets you establish a wireless connection between two gadgets, such as the phone and your computer. Your PC will need a wireless Bluetooth USB adapter, such as the D-Link DBT-120 (www.dlink.com). You should also download Windows XP Service Pack 2 (www.microsoft.com), which will improve your PC's Bluetooth support. We won't cover setting up Bluetooth on your PC here, but suffice to say, your computer needs to be running Bluetooth before you can transfer MP3s to your phone.

Establish a Bluetooth connection between your PC and the K700i. Use the phone's joystick to select Connect (the bottom-left icon). The first option listed is Bluetooth, so just click the Select button. The next selection is Turn On. Press the Select button to enable Bluetooth. (Note that enabling Bluetooth will drain the battery much faster, so we recommend turning it off after you transfer files.) Now scroll down to My Devices, select New Device, and choose Add. Your PC will appear in the list, so select it. In Windows XP, you may have to enter a passkey that you then type into the phone to make the connection. The name of your computer will appear on the K700i screen under My Devices.

Use your PC to find the tracks you want to transfer. Double-click My Computer, My Documents, and My Music (or the folder you store your music files in). We recommend transferring MP3s one by one to ensure the transfer works.

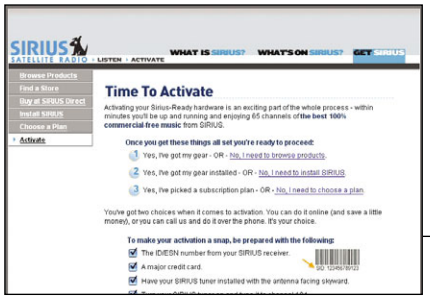
Right-click the file you want to transfer and select Send To > Bluetooth Device. The Windows XP Bluetooth File Transfer Wizard will start. You may need to click the Browse button and select the K700i. Leave the passkey field unchecked. Click Next. Windows XP will transfer the MP3 file to the phone.

Now, on the phone, use the joystick to select the Media Player and click once. Your files are listed. Just press the button next to Play The Song. Repeat the Send To process to add more songs.

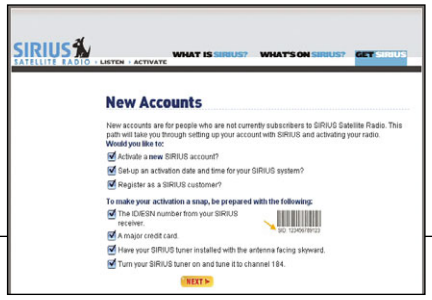
The phone provides 40MB of memory for songs and other media, which equates to about one or two CD's worth of music. The number of songs you can transfer to the phone depends greatly on the bit-rate you use to record the MP3s, measured in Kbps (kilobits per second). The higher the bit-rate of the MP3 file, the better the sound quality, but the larger the file. For example, you can fit about 20 MP3 files recorded at 96Kbps on the K700i. If you recorded the MP3s at a much higher quality, such as 300Kbps, you'll only be able to fit a few tracks in the phone, but they will sound better. Make sure that any file you transfer was recorded using the MP3 format.

BY JOHN BRANDON

Clarion SIRPNP SIRIUS Satellite Radio Plug And Play Receiver: how-tos



To get started, turn on the receiver and log on to www.siriusradio.com to activate your account.



Activating your account on the SIRIUS Radio Web site (www.siriusradio.com) is a simple process.

The Clarion SIRPNP Satellite Radio Plug And Play Receiver gives you more than 100 channels of satellite radio. You can easily program it to memorize your favorite songs, alert you when one of them is playing on any **stream** (better known as a channel), and give you the option of switching to it.

To get started, you'll have to buy both the SIRPNP SIRIUS Satellite Radio Plug And Play Receiver and either the Clarion SIRHM SIRIUS Home Kit ($99; www.clarion.com) or the SIRCR SIRIUS Car Kit w/Wireless FM Transmitter ($99) because you'll need a power adapter and antenna in order to tune in. If you buy both the Home Kit and the Car Kit, you can listen to it in both places by popping the receiver from its docking station and taking it with you. Before you begin, copy the ID number from the back of the unit onto a piece of paper; you will need this to activate your subscription.

Now, connect the Plug And Play Receiver to a free RCA jack input on your stereo (except for phono). A stereo Y-cable with RCA jacks is included in the box for this purpose. Next, connect the small, satellite dish-shaped antenna to the receiver. The instruction manual warns against placing the antenna too far from a window, but we obtained a strong signal on the first try by placing it approximately 10 feet from the nearest window. Finally, plug one end of the power adapter into the receiver and the other end into your wall.

Turn on the receiver for the first time. It'll go through an initialization process where it displays the message Updating Streams and shows a progress bar. This will take approximately two minutes. Once it is complete, it will read To Activate, Call Sirius and display a toll free number. Call this number to activate your subscription or visit www.siriusradio.com, click ACTIVATE in the upper-right corner, and follow the on-screen instructions. The setup process takes only a couple of minutes.

During the activation process, SIRIUS will send a signal to your new receiver. If all goes well, you'll see Subscription Updated—Press Any Key To Continue on the Plug And Play Receiver. Press any key on the front panel, and you should receive satellite radio.

To select a stream, rotate the big Encoder knob. The display will scroll through all of the available streams. Press the Category Up and Category Down buttons to jump from one group of streams to another: Pop, Rock, Classical, News, and so on. When you see a stream you like on the display, press the Encoder knob. You'll feel a click, and after a two-second delay, your choice will begin playing.

Clarion SIRPNP SIRIUS Satellite Radio Plug And Play Receiver
$149
www.clarion.com

The title of the current song and artist or name of the current talk radio show displays on the screen, along with the number, name of the stream, a short description of the kind of programming (such as Alternative Rock), and the current time.

Store Your Favorite Songs

Let's say you hear a song and decide you really like it. One of the biggest problems with analog radio is that it's difficult to find out the name or artist of a song you're currently listening to, and unless it's in heavy rotation, you might not get a chance to hear it again for a while. With the Plug And Play Receiver, you can save information about a song so that you can remember the name of the song and artist or band. You can program the receiver to alert you when it's playing on any stream and give you the option of switching to it.

When you hear a song you like, press the Memo button on the front panel of the receiver. It displays Saved and tells you how many of the 20 memory locations are still free. Once you fill all 20 memory locations, each time you press the Memo button, it will let you scroll through the available slots and let you replace one with your new choice.

Now, the next time you turn the receiver on, it automatically searches incoming signals and listens for any of the songs you stored as favorites. If it finds one, it displays a Seek Alert message and lists the favorites it found. You can then scroll through the list using the knob, select one, and listen to it.

In order to delete a favorite song from the list, while the stored favorites display, press the Encoder knob. It displays two settings. Turn the knob to highlight Delete and press the knob. Turn the knob again to highlight Yes and press the knob to confirm that you want to delete the song.

You can also turn off the automatic search feature. Press and hold the Memo button for three seconds. The receiver displays the stored favorites on the screen one at a time. Press the Encoder knob, turn it to highlight S-Seek, and press the Encoder knob again. The receiver displays On, which is the current S-Seek setting. Turn the Encoder knob to highlight Off and press the Encoder knob one more time.

The Clarion SIRPNP SIRIUS Plug And Play Receiver gives you clear, easy access to over 100 streams on the SIRIUS radio network. By storing information about your favorite songs, you can go another step beyond analog radio and customize your listening experience. ce

BY JAMIE LENDINO

INTRODUCING THE NEW BOSE® WAVE® MUSIC SYSTEM.

PERFORMANCE everyone can recognize.

SIMPLICITY everyone can appreciate.

ELEGANCE that speaks for itself.

ITS HERITAGE *Popular Science* called the original Bose Wave® radio "a sonic marvel." The *Chicago Tribune* said its sound was "superb." And *Forbes ASAP* magazine placed it on their "All-Time A-List" of technology breakthroughs that have changed the world. Now, the award-winning predecessor has been engineered to a new standard of performance, simplicity, and elegance.

ITS NEW PERFORMANCE

- Reproduces one-half octave lower musical notes.
- Produces even greater instrument clarity and definition.
- Plays the newer MP3 CDs as well as conventional CDs. (MP3 CDs can contain as many as ten standard CDs on just one disc.)
- It may well become the primary music system in your home.

FREE shipping with your order.

ITS NEW SIMPLICITY

- No buttons!
- It is completely and conveniently controlled by a small, elegant remote control.

ITS NEW ELEGANCE

- The original model has been repeatedly praised for its distinctive design. The new model has carried this design to an unprecedented level with the absence of all buttons.
- A thin, slot-loaded CD player replaces the previous top door mechanism.

IT COMES WITH A 30-DAY EXCITEMENT GUARANTEE. During this risk-free trial period please compare, side by side, the sound of your new Bose Wave® music system to that of larger and more expensive sound systems owned by you or your friends. You will appreciate our request when you make this comparison.

TO ORDER OR FOR INFORMATION CALL

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Be sure to ask about our financing options.

For information on all our products: **www.bose.com/tf165**

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tips

PDA Rx

1 Keep IR windows clean. Many PDAs can sync using an IR (infrared) link between the PDA and a host PC or laptop. IR links are quick and wireless, but like any optical contact, you need to be in a short range with a clear line of sight between the transmitter and receiver. If you notice frequent disconnects or your IR range seems short, look at the IR windows on your PDA and the companion PC/laptop. Junior's fingerprint or a smudge from last week's jelly doughnut may be fouling the IR window and interfering with your communication. It's easy to wipe the IR windows with a damp paper towel. (Never run water on electronic devices.) Dry the IR windows and try your link again; you'll probably notice improved speed and fewer disconnects.

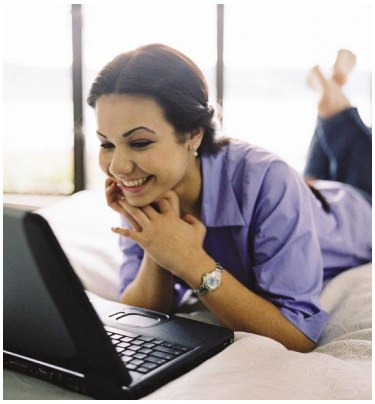
2 Update antivirus for pocket PCs. If you think viruses and Trojan-horse attacks are limited to PCs and laptops, think again. A group of virus specialists, international programmers called 29a (29a.host.sk), proved the viability of viruses for PDAs. Although the viruses, EPOC.Cabir and WinCE.Dust, were proof of concept viruses, there is a Trojan horse called Backdoor.Bardor.A (and WinCE.Brador) about. The attack is normally disguised as an email attachment and may let the attacker control the PDA and access all the data on it. Fortunately, companies such as Symantec are constantly updating products to protect PDA users from emerging threats. If you don't already use an antivirus utility on your PDA, it's time to install one. Regularly update all of your antivirus products to protect against the latest viruses and other attacks.

3 Block unwanted connections. Most PDAs will automatically recognize incoming IR and Bluetooth connections and then prompt you to receive those connections. However, many PDA users do not welcome automatic connections because of security concerns. Fortunately, it's a simple matter to block unexpected connections. On a Pocket PC, simply tap Start and Settings, select the Connections tab, and select Beam. Remove the check mark from the Receive All Incoming Beams checkbox and save your changes. Now you won't be interrupted with pesky prompts for new connections. You can always opt to receive connections again by putting a check mark back in the Receive All Incoming Beams checkbox.

4 Block annoying messages. Wireless (802.11x) instant messaging is a handy means of communicating on the go, but not all IMs are welcome—a growing number of spam and other unwanted messages can offend users or impair productivity. Fortunately, it's a simple matter to block messages from unwelcome senders using PDA tools, such as MSN Messenger. With Messenger open, tap Tools and Options and select the Privacy tab. Highlight the unwelcome sender in your My Allow list and move it into the My Block list. Save your changes. Now your PDA will ignore pesky instant messages from unwelcome senders. You can always remove the block later if you wish.

5 Don't ignore the add-ons. When buying a PDA, remember that the unit itself is just one part—chargers, cases, keyboards, cables (for syncing), and other accessories are not always included with the PDA itself. Buying accessories can raise the cost of your PDA dramatically. Software applications can raise the price even further. Don't compare costs of the PDA units alone. Add in the cost of desired accessories and software for each model and then compare the adjusted amounts. For example, HP's $399.99 iPAQ h4155 PocketPC includes an integrated backup utility, Outlook, ActiveSync, and other utilities. ViewSonic's $313.40 V36 PocketPC has fewer features but includes more software, such as PocketWord, Pocket Excel, Windows Media Player 9.0, and more. The bottom line is to compare products, accessories, and software needs together before you spend any money.

BY STEPHEN J. BIGELOW



tips

Improve Wireless Networks

1 Get The Best Range. Metal objects, leaded glass, and other physical obstructions can easily block wireless networking signals between your sending and receiving antennas. As a result, you may not get the range you expect from wireless devices. For example, a wireless access point placed in one room of a building may lose significant signal strength when it's blocked by a number of office cubicles. Similarly, a wireless router in one corner of a home may not supply adequate strength to laptops or wireless desktop PCs located in distant corners of the home. To get the best wireless coverage, center your wireless access point in a general area and elevate the access point above common obstructions, such as metal file cabinets or cubicles.

2 Change Wireless Defaults. Each wireless device ships from the manufacturer with a default SSID, or Service Set Identifier. When you install the wireless device and set up your own wireless network, you generally stick with the default SSID—especially when using equipment from the same manufacturer, such as Linksys, Netgear, or D-Link. However, SSIDs make a wireless network uniquely your own. If you keep defaults, other wireless users (such as your next door neighbor) with similar wireless devices may be able to "see" your network, possibly using your Internet bandwidth, and maybe even accessing your files. Always choose a unique SSID for your own wireless network devices. You should also disable the SSID Broadcast feature of your wireless access point (according to the manufacturer's instructions), so that the presence of your wireless network isn't sent out for unwelcome wireless eavesdroppers to see.

3 Keep Antennas Tight. Although wireless laptops (or wireless network adapter cards in laptops) keep the antenna safely tucked away, other wireless networking devices (such as wireless routers or access points) incorporate one or two external antennas. Often, moving the antennas can loosen the barrel connector holding the antenna in place, resulting in poor wireless connections and disconnections. Anytime you make an adjustment to an external antenna, check the antenna's connection and make sure it's secure.

4 Enable Wireless Security. Wired networks have a slight security advantage over wireless networks because wired networks carry information along fixed wires. With wireless networks, the information travels across the air over radio signals, making wireless information particularly vulnerable to crackers. You can protect your data by enabling the encryption features of your wireless devices. Most wireless devices today support WPA (Wi-Fi Protected Access) security, which employs strong encryption to scramble the data as it's sent through the air. This way, even if a malicious user intercepts your signals, he cannot decode your data without the exact same encryption key. Of course, all of your wireless devices must support the same security feature, and you must configure all of them with the identical encryption key(s) according to the manufacturer's instructions.

5 Save Laptop Power. Wireless networking is a terrific feature for laptops, allowing for convenient, unfettered operation in homes and offices. However, the transmitter circuit that actually handles radio operations can consume a significant amount of power—often shortening the laptop's battery time. If you're operating the laptop outside of a wireless network (maybe in the car or on a customer's site), it's a good idea to switch off the wireless transmitter. On laptops with built-in wireless capability, you may see a physical switch, and on laptops with wireless PC Card adapters, you can simply unplug them from their PCMCIA (Personal Computer Memory Card International Association) slots. In either case, disabling the wireless circuit can buy 15 to 30 minutes of additional running time from a battery charge.

BY STEPHEN J. BIGELOW

CableCARD

CableCARD is a TV feature that eliminates the need for a set-top box to receive digital cable signals because the tuner hardware is built into the set. A card roughly the size of a credit card from a cable provider lets a subscriber configure her TV to receive exactly the channel lineup she subscribes to simply by sliding the card into a properly equipped TV's CableCARD slot. As of yet the CableCARD doesn't support the two-way communication that makes some of digital cable's extra features possible, such as Pay-Per-View, interactive programming guides, Video On Demand, and season sports packages.

digital zoom

Although a digital zoom does magnify a photo or video subject, the camera or camcorder does this by creating data that wasn't there to artificially enhance the image. The image quality produced by digital zooms is inconsistent, so it's usually better to use only an optical zoom if possible.

DivX

DivX is a lossy video compression codec (encoder/decoder) that is highly adept at achieving the highest level of compression (making video data take up as little space as possible) with the lowest effect on video quality. It is based on the standard MPEG-4 (Moving Picture Experts Group-4) video compression standard. Commercially produced DVDs use older MPEG-2 (Moving Picture Experts Group-2) compression to squeeze a few hours of video onto a single-sided, single-layer 4.37GB DVD, but MPEG-4 (and, by extension, DivX) compresses video enough that those same few hours can easily fit on a 650MB CD while retaining a comparable level of video quality.

LCD (liquid-crystal display)

A flat, lightweight display technology in which special molecules in the screen have the ability to bend and twist light to create desired images. LCD screens are very common; notebook computers, digital music players, digital cameras and camcorders, cell phones, and a host of other ubiquitous electronic devices all have LCD screens on them, not to mention the recent surge in the popularity of LCD TVs.

memory buffer

A temporary storage area in a computer or other electronic device's memory, usually RAM, that stores info the device needs but hasn't gotten to yet. In a computer, buffer memory is used to speed up performance because accessing data from RAM is faster than accessing it from a hard drive. In a media device, buffers hold a few extra moments' worth of audio or video data to ensure that playback doesn't halt in the event of a disruption of some kind.

MP3 (Motion Picture Experts Group Audio Layer 3)

MP3 is a format that uses a sound layer of the MPEG video format to compress audio to one-twelfth its original size while still providing CD-quality sound. MP3 can compress a minute of music into 1MB of data. The compression is achieved by removing sound outside the spectrum humans can hear. MP3 files have become a popular way of sharing music over the Internet. The format promises to help those musicians that want to publish their own music on the Internet, but the music industry has become concerned because the format also lets users quickly distribute CD-quality pirate or bootleg copies of CDs.

optical zoom

A camera or camcorder's zoom feature lets you magnify an image, and optical zoom provides a true zooming range where quality remains consistent throughout the image. Contrast optical zoom with digital zoom.

pixelation

When you've zoomed in or blown up a digital image too far, you can often see the individual pixels (short for picture elements), or blocks of color. A pixelated image looks chunky and blurry, rather than crisp and well-defined.

SLR (single lens reflex)

SLR refers to a specific type of camera where the scene viewed through the viewfinder is the same as what is framed by the lens. In most point-and-shoot digital cameras, what is viewed through the viewfinder is slightly different than what is framed by the lens.

VGA (Video Graphics Array)

A computer display standard developed by IBM in 1987 that provides 640 x 480 resolution color-display screens with a refresh rate of 60Hz and 16 colors displayed at a time. VGA Many current consumer electronics devices have VGA LCD displays, as well.

music & movies

music

BY: BLAINE FLAMIG

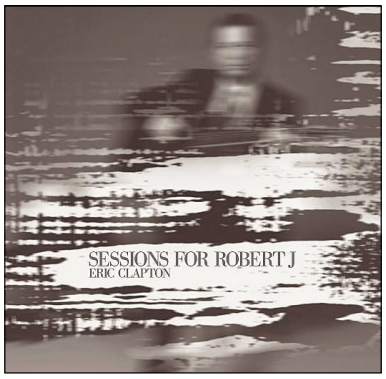
recently released

"Grand Theft Auto: San Andreas," eight-CD box set: You've been playing the game non-stop for weeks; now pick up the soundtrack to all of CJ's drama.

U2, "How To Dismantle An Atomic Bomb": The Irish lads go back to their roots to turn out what may be one of their best albums in an already storied career.

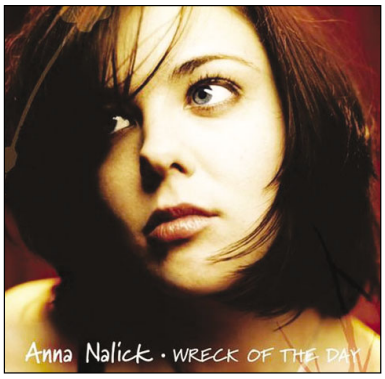
Nirvana, "With The Lights Out": Grohl, Novoselic, and Cobain didn't invent grunge, but they put it on the map. This three-CD/one-DVD set is a must have.

Simon and Garfunkel, "Old Friends, Live On Stage": All of the hits are here, recorded live on the duo's mega-successful tour last year.



"Sessions for Robert J."

Eric Clapton
$19.99 • Available: Dec. 7
Last year Clapton released the remarkable "Me and Mr. Johnson," an album's worth of Clapton and his crack band covering tunes from the legendary blues master Robert Johnson. This album brings us more from those sessions, along with live performances and a documentary on DVD.



"Wreck of the Day"

Anna Nalick
$13 • Available: Jan. 18
At just 20, Nalick joins a strong group of young female singer-songwriters hitting the scene with this promising debut on the venerable Columbia Records label. The already-released single "Breath" hints at a voice that's much wiser and weathered than Nalick's years.

"Classics & Collectibles"

Dusty Springfield
$25 • Available: Dec. 17
She's an icon in Britain and a member of the Rock and Roll Hall of Fame, and deservedly so. This collection of 51 tunes includes the well-known "Son of a Preacher Man" and previously unreleased tracks Springfield cut before her untimely death in 1999.

"Concrete Rose"

Ashanti
$14 • Available: Dec. 14
With millions of albums sold and top 10 hits galore under her belt from her first two releases, the young R&B songstress Ashanti is back with a third album on the notorious Murder Inc. label.

"The B-Coming"

Beanie Sigel
$14 • Available: Dec. 14
What exactly does a guy rap about when he's just been handed a federal prison sentence of a year on drug and gun charges? Well, he brings onboard heavyweight producers like Kanye West and RZA and gets his house in order.

BY: SAMIT G. CHOUDHURI

"Ultimate Matrix Collection"

$79.92 • Available: Dec. 7
"The Matrix" upped the ante on how films should be made. Bullet-Time, which now shows up in nearly every popular action film, got its start here. However, that's not the reason to delve into this 10-disc package. You heard right. The three films (the first is remastered, and all three feature new audio commentaries), three "Revisited" discs (one for each film), and "The Animatrix" fill out the first seven DVDs. The remaining three discs feature the roots of "The Matrix" making-of and game footage and finally production assets, concept art, music videos, and more. You'll find plenty here to occupy your time through many snowy days and nights.

"Maria Full Of Grace"

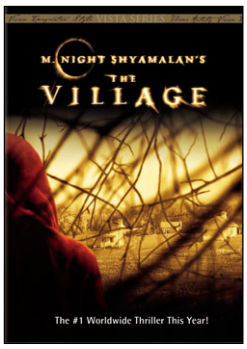
$27.95 • Available: Dec. 7
Every now and again a drama comes along that touches heavily on your emotions while providing a strong social commentary. "Maria Full Of Grace" is a low-budget affair, which works to the film's advantage as it focuses on Maria, a Columbian teenager, who agrees to be a mule to smuggle drugs into America. It puts a human face on the no-name person and drives home how important it is to continue in the war against drugs. Includes an audio commentary by Director/Writer Joshua Marston.

"Lord of the Rings: The Return of the King" (Platinum Series Special Extended Edition)

$39.99 • Available: Dec. 17
The theatrical version of this film was released on DVD early in the summer, but we bypassed that version for this one. Director Peter Jackson has cut 50 minutes of new footage into the film, which brings the running time to a staggering 250 minutes spanning the first two discs (features both Dolby Digital 5.1 EX and DTS 6.1 ES audio tracks). Like the previous "Lord of the Rings" Extended Edition films, we get two more bonus discs. These feature in-depth making-of and backgrounder information that will give fans plenty to keep them occupied. Now if we could only convince Jackson to direct "The Hobbit."

"Mary Poppins" (40th Anniversary Edition)

$29.99 • Available: Dec. 14
Disney's supercalifragilisticexpialidocious 1964 kid- and adult-friendly classic has finally been endowed with A-list DVD treatment. The film's video (now 16:9 widescreen) and audio have been remastered, and extras abound. The 40th Anniversary Edition includes an audio commentary track by Julie Andrews and Dick Van Dyke, a deleted song ("Chimpanzoo"), sing-along songs, pop-up facts, a making-of feature, and more. A spoonful of sugar and a trip to the Fidelity Fiduciary Bank so you can buy the DVD will usher in a family-friendly time for all.



"The Village"

$29.99 • Available: Jan. 11, 2005
M. Night Shyamalan once made a movie called "Stuart Little" before he broke into the big leagues with "The Sixth Sense." That was before people had expectations for Shyamalan-directed films. "The Village" was advertised as yet another of his mysterious horror dramas with a surprise ending but comes off as much more and shows a new turn in the filmmaker's development. You'll get the usual dose of thrills and suspense, but the film is also a clever social commentary on closed societies that more intelligent viewers will enjoy. The disc's features are surprisingly light (deleted scenes, a making-of feature, and a home movie), which may hint at a special edition later in 2005.

recently released

"**Before Sunset**": Ethan Hawke and the lovely Julie Delpy wander around Paris for a day chatting and falling in love in this Richard Linklater-directed sequel to 1994's "Before Sunrise." A charming movie that works as intended.

"**Top Gun**": Finally, an anamorphic widescreen release of an 80's "classic" that rocketed Tom Cruise to stardom. It's a guilty pleasure, and the remastered audio and video finally make it worthy to watch on DVD.

"**Hero**": It took its time making it over to North American movie theatres, but this masterfully filmed martial art epic is steeped in stunning cinematography, powerful emotions, and a superb storyline. The excellent acting makes it a winner.

games . . .

for you and the people in your life

PlayStation 2

Jak 3

Sony's Jak and Daxter series started out in 2001 with a light-hearted run-and-jump game and then got a bit darker in Jak II, as that game added a passel of weapons and vehicles to the mix along with a decided change of scenery. Jak 3, which may be the final chapter, is more like the second game in its tone and setting, as reflected in its Teen (13+) rating. Tight controls, lush graphics, and the series' trademark sense of humor help Jak go out on a high note.

$39.99
Sony Computer Entertainment America
www.us.playstation.com

Ratchet & Clank: Up Your Arsenal

Sony's Ratchet & Clank games have been coming out each year since 2002. UYA is the third installment and has virtually the same controls, graphic style, and gameplay elements fans know and love, but it adds online multiplayer action. Bright, colorful, and often funny, Ratchet & Clank's brand of action is a perfect fit for players age 13 and up.

$39.99
Sony Computer Entertainment America
www.us.playstation.com

Ace Combat 5: The Unsung War

Ace Combat 5 drops players into the cockpits of more than 50 authentic military aircraft and turns them loose on a variety of mission types. The game's wingmen respond to players' commands, and a dramatic story unfolds during missions and through cinematic movie clips between them as the game progresses.

$49.99
Namco
acecombat5.namco.com

Xbox

Dead Or Alive Ultimate

Dead Or Alive 3 was a graphical showcase when the Xbox hardware debuted in 2002. The follow-up features the Ultimate versions of DOA1 and DOA2 (as well as the original DOA on a separate DVD). The graphics in this game are fabulous and the all-new multiplayer challenge provides a whole new dimension to gameplay. Oh, and unlike Sega's Virtua Fighter games, DOAU is clearly targeted at the more mature gamer, so don't get this as a stuffing stocker for your impressionable teen.

MATURE 17+ M CONTENT RATED BY ESRB

$49.99
Tecmo
www.tecmogames.com

Tom Clancy's Ghost Recon 2

Realism in locations, situations, and weaponry are a cornerstone of the Ghost Recon series, and this edition proves no different. In a new twist, the Xbox version will feature a completely different single-player game than the PS2/GameCube editions. Graphics look noticeably better than before, and you'll be able to take your tactical-multiplayer shooter skills online for team combat.

TEEN T CONTENT RATED BY ESRB

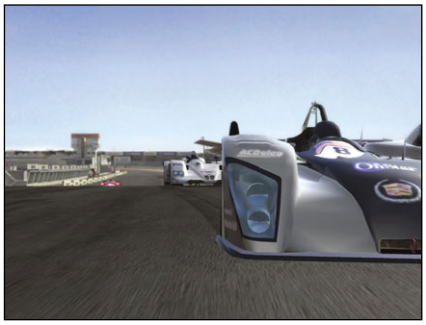
$49.99
Ubisoft
www.ghostrecon-2.com

MechAssault 2: Lone Wolf

It's time to get back into heavy metal: 40-ton steel machines built to rain destruction on the enemy. MA2 takes place in the 31st century where giant robot-like vehicles (manned by humans) do combat in the field of battle. The firepower from a Mech can take down buildings in any of the15 fully destructible levels. Fans of the original game will find an all-new and more in-depth single-player campaign, but the ability to jump out of a Mech and hijack an enemy in the all-out Xbox Live multiplayer mayhem is the jewel in Lone Wolf's crown.

TEEN T CONTENT RATED BY ESRB

$49.99
Microsoft Game Studios
www.xbox.com/mechassault2



Forza Motorsport

A solid driving simulation has been missing in the Xbox lineup, but Forza Motorsports will fill the gap nicely. You'll have more than 100 actual cars you can customize and race in real-world locations with real-world physics. Forza Motorsport will give Sony's Gran Turismo 4 a run for its money while featuring extensive online multiplayer support, which GT4 no longer does.

RATING PENDING RP CONTENT RATED BY ESRB

$49.99
Microsoft Game Studios
www.xbox.com/forza

Multiplatform

Need For Speed Underground 2

Electronic Arts' mostly great NFS series of racing games goes another round in street-racing mode. Players will race for street cred and cars, tune and tweak their rides, and even customize their cars' paint jobs, accessories, and bodies.

$49.99
EA Games
www.eagames.com

Prince Of Persia: Warrior Within

Warrior Within is the sequel to Ubisoft's 2003 hit Prince Of Persia: The Sands Of Time. A stylish, gritty action game, WW puts players in the shoes of an older, more hardened version of the young lad who saw his father destroyed by the Sands Of Time in the first game. Players will do lots of exploring, fight a variety of monsters with an impressive array of weapons and moves, and solve puzzles to help the Prince evade the retribution of Dahaka, the embodiment of Fate.

$49.99
Ubisoft
www.princeofpersiagame.com

Nintendo GameCube

Mario Party 6

Nintendo's Mario Party games are essentially video board games, in which as many as four players compete in a variety of minigames to move their playing pieces around the on-screen board. MP6 shakes things up a bit with the addition of new, voice-enabled minigames that players can tackle using the included microphone controller. MP6 is a kid-friendly game and great for parties.

$49.99
Nintendo
www.nintendo.com

Star Fox Armada

Nintendo's Star Fox series has been around since 1993 when the first SF game hit the Super NES. Today's incarnation is much more sophisticated graphically and offers more gameplay variety, but at heart Armada is still a space shooter with cute animal characters and your basic save-the-galaxy storyline. The game wasn't rated at press time, but the last SF title garnered the ESRB's Teen rating (for players age 13 and up).

$49.99
Nintendo
www.nintendo.com

Resident Evil 4

Capcom's Resident Evil games aren't for the kids, but they're perfect for mature gamers looking for an action game and bit of a scare. RE4 finds federal agent and former cop Leon Kennedy on the trail of the president's daughter, who has vanished. The search leads to an isolated European village whose population has undergone some sort of terrifying transformation.

$49.95
Capcom
www.capcom.com

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for every occasion and budget

Virgin Electronics Boomtube

"I'm picking out a Thermos for you," sang Steve Martin in his classic reel, "The Jerk." We can't wait to play that track over our Boomtube, which only looks like a Thermos until you twist off its 2-inch wired speakers. The Boomtube is a powered speaker set just waiting for your iPod, laptop, or other music source. The 2-pound basic edition ($99; www.virginelectronics.com) plays at an intimate 4 watts rms (root mean square) for 20 hours on a set of four AA batteries. Its big brother, the 3-pound, 40-watt rms Boomtube ex ($199), packs a much stronger bass presence. The ex has a rechargeable Li-Ion battery good for 10 hours between charges. Both Boomtubes are built of sleek anodized aluminum.

Primera DS360 Disc Shredder

It's hard to believe that some people would go through your garbage to learn more about you or your business, but there it is. Sure, you can wipe all files from the hard drives and diskettes you throw out, but what about those write-once CD-Rs and DVD±Rs? Protect yourself from dumpster divers with Primera's DS360 ($129.95; www.primera.com). This lil' chopper will turn your optical discs into unrecoverable shards of polycarbonate. It must also release some endorphins, too, as we feel happier the more CDs we shred. Remember, friends don't let friends listen to pseudo-operatic mawkishness.

Kidz Gear Headphones For Kids

Sometimes Boobah and Yu-Gi-Oh! should be seen and not heard. Do your part to help raise a generation of kids who will not grow up to blast music out of their open car windows. Start the little angels off right with pint-sized headphones from Kidz Gear ($19.99; www.gearforkidz.com). They have a 4-foot cable and a volume control, plus a surprisingly wide 20Hz to 20KHz frequency range. The Headphones For Kids are just the thing for Dora tha Explora marathons in the back o' the fly minivan hoopty.

Cambridge SoundWorks PlayDock XM

So what do you do with your Roady when you're not on the road? Drydock it in the PlayDock XM. This portable speaker system from Cambridge SoundWorks ($199.99; www.cambridgesound works.com) lets you take your Delphi Roady Receiver's XM satellite audio anywhere your car can't follow. Plug in the PlayDock's AC adapter or let it run around naked with its 10-hour rechargeable battery. A 5.25-inch, 15-watt subwoofer anchors two other speakers for broad frequency response. Where'er you may wander, your PlayDock will be ready to turn it into a party.

Kanguru Fire Flash

Kanguru dares to go where flash memory drive makers fear to tread. The company lights up personal data portability with the first FireWire memory key, the Fire Flash ($64.95 and up, 128MB to 1GB; www.kanguru.com). Thanks to an included adapter, it's compatible with the most common types of FireWire ports. We've long found FireWire to outpace the theoretically faster USB 2.0 in real-world hard drive speeds, so perhaps the Fire Flash has an edge in the solid-state memory arena. OK, OK, FireWire isn't as universal as USB. But it is much, much cooler.

Wildseed SmartSkins

Wildseed ratchets up the phone personalization frenzy with its new SmartSkins. Pair a SmartSkin with one of the company's Identity GSM/GPRS cell phones, and you'll change the phone's whole personality. The change isn't just skin-deep, either. There's a special chip in each SmartSkin that uploads a corresponding theme onto the phone, including graphics, ringtones, and games. The Identity phone is cool to begin with, packing a digital camera, stereo FM, and even those red LEDs that show messages when you wave the phone through the air. The phone costs $250; the SmartSkins (www.smartskins.com) go for $25 to $60.

Logitech MediaPlay Cordless Mouse

Some days, the less you have to move, the better. We like Logitech's new MediaPlay mouse ($49.95; www.logitech.com) because it spares our fingers the long trek from the mouse to our speakers' volume knob. The cordless, optical MediaPlay has backlit media control buttons, such as pause, play, and skip, that are compatible with most media player programs. Even better, you can use the mouse like a remote from up to 10 feet away. That puts your mainstream computer one step closer to being a full-fledged home theater PC, especially in a dorm room or den.

Mattel Juice Box

Kids love juice boxes, don't they? We're not clear on the marketing reasons behind the name, but Mattel's new A/V player for kids is called, for good or ill, the Juice Box ($69.99; www.juicebox.com). Your kids can watch life-enriching content, such as music videos, cartoons, and professional wrestling, in full color and stereo sound. The bad news is that the Juice Box takes a proprietary data cartridge format ($11 to $17 each), and the necessary hardware to download MP3 music files and JPEG (Joint Photographic Experts Group) photos to it costs $39.99 extra. On the other hand, at least you won't have to worry about the tyke using the Juice Box to explore your DVD collection unsupervised.

Sushi Disk

So much for pocketability. The Sushi Disk line of USB flash memory drives from Solid Alliance resembles five different kinds of sushi. And, well, that's pretty much it. Sushi Disks are available in two rather lightweight capacities, 32MB ($79) and 128MB ($109), and are marketed with such nummy-sounding names as "Sea Urchin" and "Salmon Roe" at www.dynamism.com. A Sushi Disk would make a perfect gift for the person who has everything but raw fish in her pocket.

Retro

the history of headphones

The era of portable digital audio players is well underway. People everywhere walk around with the devices, and manufacturers flood the market with an array of accessories, from armbands to car adapters.

None of these products would exist, however, if it were not for another, often-overlooked item that started its life as an audio accessory: the stereo headphone.

The history of the modern stereo headphone begins in 1958 when John Koss, an entrepreneur, envisioned himself selling a suitcase-sized portable phonograph equipped with a stereo cartridge. Those cartridges were just coming into vogue, recalls Koss' son, Michael, who now is president and CEO of Koss. Koss conceived the stereo headphone as an accessory to his phonograph, and he built the first headphone units using paper-cone TV speakers from the spare-parts bin of his company's TV repair facility.

Koss built 150 pairs of those headphones in 1958, named model SP3 and priced at $24.95, says Michael Koss. But while the headphone was intended to help sell the phonograph, it did not. Nobody wanted the phonograph—but everybody wanted the headphone.

From that point forward, Koss was in the headphone business, competitors emerged, and the market had begun. Early on, Koss notes, Japanese companies sold copies of the SP3 for $14 to build sales.

The next step forward, again attributed to Koss, was the use of a microphone transducer rather than a paper cone inside each headphone speaker. Koss introduced this technology in 1962 in the model Pro/4, which was priced at $45, in a counterintuitive response to the Japanese pricing tactic. The technology and the price attracted music professionals and aficionados to the Pro/4.

Sennheiser, a German brand, emerged in 1967 with a technology called Open-Aire that directed sound waves bouncing off the wearer's head back through a foam ear cushion. These 'phones, named the HD414, were "supraaural" because they sat on the ear. Unlike the "circumaural," or over-the-ear, headphones sold by Koss, the Sennheiser headphones also let the wearer hear ambient sounds. Today, Sennheiser's headphones use an updated Open-Aire technology that works with both styles of headphones.

In 1968, Koss says his company developed the first electrostatic headphone, the model ESP/6, which used stator plates to create sound. Each earcup contains two stator plates, which receive electrical charges that result in a vibration of one of the plates relative to the other, causing air to be moved inside the earcups and creating sound. Electrostatic stereo headphones are rare today, but in

scope

1992, Sennheiser introduced a model named Orpheus that still ranks as the most expensive headphone system ever sold, Douglas says. The Orpheus cost $14,900 and came with a sophisticated power amplifier to drive the headphone.

In 1972, Koss followed the ESP/6 with the ESP/6A, which did not require a separate power amplifier. According to Koss, it was the only self-energizing electrostatic headphone ever produced. Koss still sells electrostatic 'phones, the model ESP/950, designed for recording studios.

Wireless infrared 'phones emerged in the mid-1970s. Sennheiser updated the technology in 1994 in the world's first digital infrared headphone, the model IS850, priced at $1,300, which contained its own digital-to-analog converter, Douglas says.

In the 1980s, Koss introduced collapsible portable headphones, and the first earbud headphones also appeared during this time.

Koss also introduced noise-canceling headphones in the 1990s, although the technology already was used in headphones for military and general aviation pilots. The U.S. Air Force sponsored research into noise-canceling headphone technology in the 1950s, says Dan Gauger, manager of research in the noise reduction group at Bose. Bose began its own work on the technology in the 1970s and introduced the first commercial noise-canceling headphone for general aviation pilots in 1989, Gauger says.

Koss says his company was the first to sell a music-oriented noise-canceling headphone at retail in 1993. Gauger says the first consumer-oriented noise-canceling headphone from Bose was the QuietComfort, introduced in 1999.

Although its purpose hasn't changed in four decades, headphones today contain vastly improved technology. Douglas predicts that today's headphones will morph into something entirely different. It may, for example, blend functions, such as a hands-free cell phone headset.

"Instead of a single application device," Douglas says, the headphone of the future "will start to encompass different devices all rolled up into one."

BY ROBERT E. CALEM

fifties

1958
John Koss builds and sells the first headphones, called the SP3.

sixties

1962
Koss creates a new style of headphone, the Pro/4, that uses a microphone transducer.

1967
Sennheiser's Open-Aire headphone technology debuts.

1968
Koss develops the first electrostatic headphones.

seventies

eighties

1980s
Portable headphones and earbuds appear for the first time.

1989
Bose introduces the first commercial noise-canceling headphones, designed for aviators.

nineties

1994
Sennheiser is the first company to develop digital infrared headphones.

The average American spends more than four hours each day watching television, according to the A.C. Nielsen Co. That's more than one full day each week and nearly two months out of the year. Information collected by the U.S. Census Bureau shows there are now almost as many television sets in the U.S. as there are people. How does your home stack up?

2004 marked the 50th anniversary of the first commercially successful color television receiver, a 12-inch set manufactured by RCA that retailed for the princely sum of $1,000.

Two-thirds of U.S. households own three or more TVs.
Source: A.C Nielsen Co.

86% of American households have a television in at least one bedroom.
Source: Cabrillo.edu

About two-thirds of the viewing audience leaves the room during commercial breaks. *Source: Cabrillo.edu*

61% of American children have TVs in their bedrooms.
Source: Knowledge Networks/SRI (2003 Study)

People ages 18 and over in the U.S. will spend 4.5 hours per day or the equivalent of nearly 10 full weeks watching television in 2004.
Source: U.S. Census Bureau

Three out of four TV viewers say they "channel surf," or "graze," watching multiple programs at one time. *Source: Cabrillo.edu*

Approximately 22% of pet owners watch TV shows they know their pets will like. *Source: MeowMix.com*

TV Guide is the fourth largest publication in the U.S., with a paid circulation of more than 9 million. *Source: TVGuide.com*

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